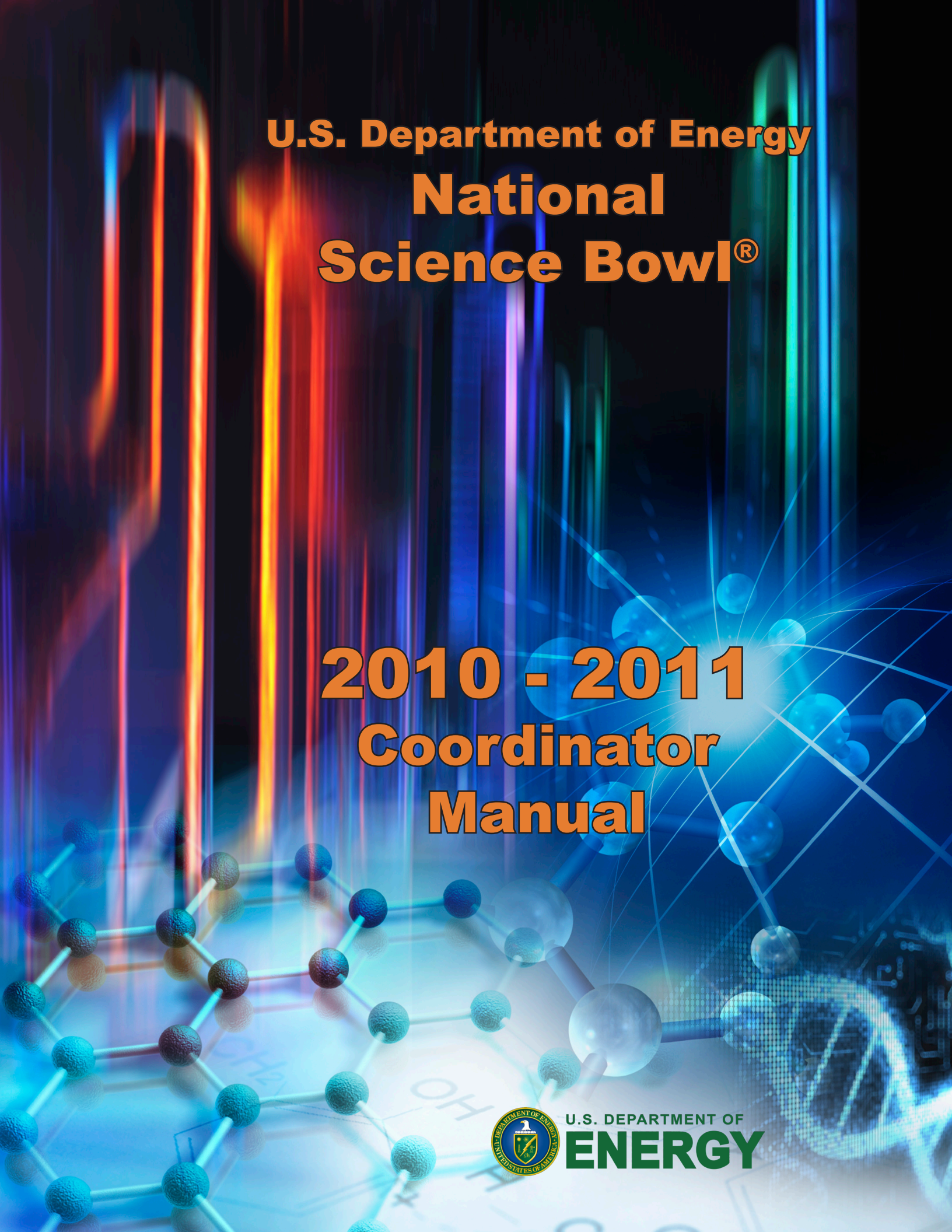
U.S. Department of Energy
National
Science Bowl®
2010 - 2011
Coordinator
Manual
U.S. DEPARTMENT OF
ENERGY

U.S. DEPARTMENT OF ENERGY NATIONAL SCIENCE BOWL®
FOR HIGH SCHOOL AND MIDDLE SCHOOL STUDENTS

2010–2011 COORDINATOR MANUAL

USING THIS MANUAL

This Coordinator Manual was developed to provide information on planning an event for the National Science Bowl® for High School Students and for Middle School Students. This Manual includes information necessary to organize a successful regional competition(s) and get the regional winning team(s) ready to participate in the National events. Keep in mind the manual is a set of guidelines and coordinators are encouraged to individualize their own events.

This Manual contains information on the following:

- Organizing and managing a regional competition;
- School responsibilities and filing forms;
- Competition rules and duties of officials;
- Publicity, media coverage and corporate sponsorships; and
- Information on programs, competition flow charts, and other materials.

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2010 National Science Bowl® Champions

Congratualations to the 2010 NSB® Champions - North Carolina School of Science and Mathematics from Durham, NC (High School) and Albuquerque Academy from Albuquerque, NM (Middle School).

INTRODUCTION

The Department of Energy National Science Bowl® (NSB®) competition is a proven tool in encouraging students from across the Nation to excel in math and science and to pursue careers in those fields. By raising the visibility of academic achievement in the sciences, the program has succeeded in placing these young people on a par with their peers who excel in athletics. Another goal is to encourage increased participation in mathematics and science courses and careers, especially among populations underrepresented in these fields.

Since the inception of the National Science Bowl® in 1991, more than 160,000 students from every region of the country have participated in this fast-paced, question-and-answer tournament. Each year the number of regional competitions has grown significantly. In 1991, there were 18 regional high school tournaments; in 2010, 68 high school regional events were held in 42 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands.

Based on the success of the NSB® for high school students, the U.S. Department of Energy started the National Science Bowl® for Middle School Students in 2002. In 2010, the National Science Bowl® for Middle School Students competition hosted 37 regional winning teams from around the country.

Similar to a sporting event, the Science Bowl competitions are set up in a round robin format followed by a single or double elimination final tournament. Teams of students compete in a "Jeopardy" style question and answer format.

The winning team from each regional competition is invited to participate in the National competition. The teams representing each regional, both middle and high school, will compete in the 2011 National finals, held April 28–May 2, 2011, at the National 4-H Center in Chevy Chase, Maryland.

Along with the academic tournament at the National finals, students also attend outstanding science seminars and, the middle school teams will participate in a Solar Car Challenge.
The National Science Bowl® for Middle School and High School students is managed and coordinated by the Department of Energy's Office of Science. Department of Energy facilities, other federal agencies' sites, utilities, and educational institutions conduct the regional tournaments.

CHANGES IN 2011

Rules Changes – see page 37.

Question Categories – see page 37.

Car Race Events – Instead of building a car with a solar panel, teams this year will be using a hydrogen fuel cell. In the case of combined academic/car race event, ONLY the academic winner is eligible to attend the nationals. All middle school teams will compete in the car challenge at the national event. Just as with years past, each winning team will receive a both a teacher and student kit from which to design and build a model car to bring to the national event.

REQUIREMENTS FOR HOLDING A REGIONAL EVENT

Why requirements?

The Department of Energy cares about the regional Science Bowl competitions, as they are an extension of DOE into local communities. The Department is grateful for volunteer regional coordinators and wants to respect their high standards for the event. Since space for teams at the national event is limited, and there is greater demand to start new sites, DOE will support only those locations with the biggest outreach to teams and support of science education.

Minimum Number of Schools

A regional competition must have a minimum of ten schools registered through the NSB® online system. First year regions only need to have 6 different schools. There are no consequences if fewer teams show-up on the day of the event.

- Future new regional sites will have a "learning period" of two years to reach minimum team numbers.
- Each regional competition must meet the minimum number of schools above in 2011.
- If the minimum number was not met in 2010, then DOE may not sponsor a team to nationals from that regional event in 2011.

The minimum count of teams is measured from the online system, not by the teams in attendance. If the same school wins your regional event every year, consider boosting prizes or enhancement activities to prevent low turn-out and encourage participation of additional teams.

Online System

The online system is designed to collect data and streamline paperwork for both the regional coordinators and DOE. All regional coordinators must have their teams use the online system to register for their events. Technical assistance from DOE is always available to regional coordinators or coaches as needed. Regional coordinators that do not use the online system for their regional events will not be eligible to participate in future years.

Ensuring the Right Team Members

To make sure that each team coming to nationals competed together on the regional winning team, regional coordinators will be asked to double check the electronic registration form to the winning roster before submitting. Some coaches try to make substitutions because of illness, scheduling conflicts, or for competitive advantage, which is forbidden.

Coaching Teams

Regional coordinators cannot coach their team before or after their regional event. Minor help with strategy and logistics for nationals is okay. It is NEVER okay to share old questions or lead practices. Coordinators may not be the coach of a team participating in their regional event. The importance here is on the perceived fairness to the other teams.

DEADLINE LIST

Regional Commitment	September 1, 2010
Regional Events	January 15–March 5, 2011
National Forms Due	March 11, 2011
National Event	April 28–May 2, 2011

COSTS INVOLVED IN COORDINATING A REGIONAL SCIENCE BOWL

- Solicitation of teams – postage
- Lock-out systems, clocks (some regional sites share)
- Art design, program printing, reproduction (see tab for other printed items)
- Trophies or similar awards for winners (sponsors can provide)
- Meal or snack during the day of competition
- Training time for personnel working on regional competition
- Supplies: flip charts, markers, paper, pencils, signage, etc.
- Rental of facilities (may be donated by sponsor e.g. school/university)
- Optional costs: hotels for teams who travel long distances, goodies and giveaways, T-shirt for team traveling to nationals, and enhancement activities

EXAMPLES OF REGIONAL SPONSORS

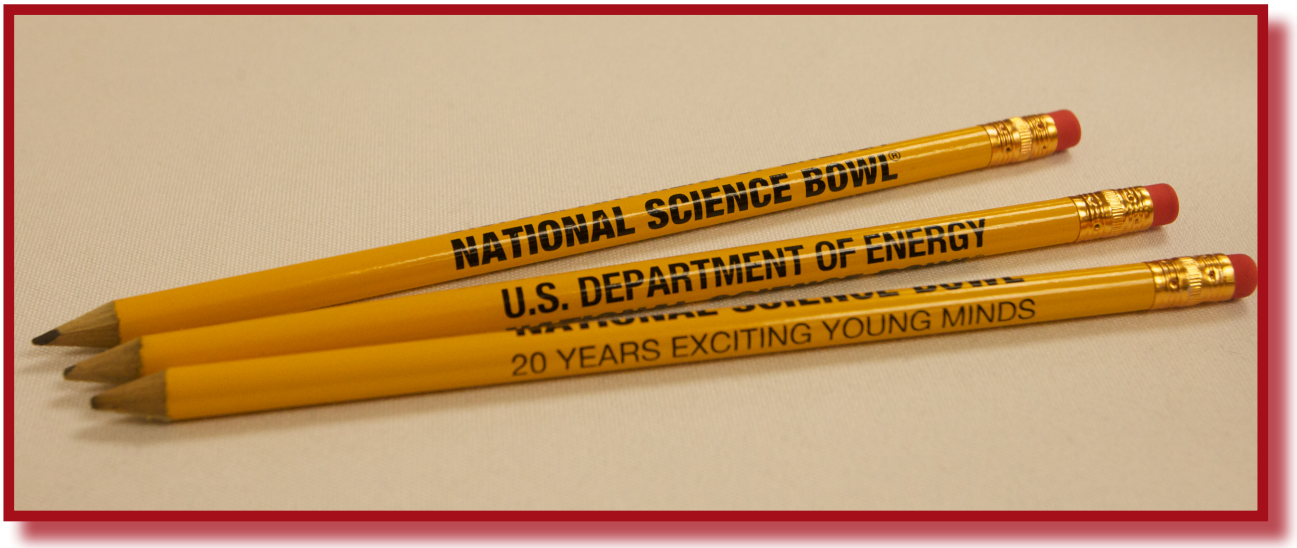
- Local businesses, industry, and educational institutions may be contacted for donation of money, food, gifts, services, or facilities. Sponsors should be acknowledged in the program.
- Volunteers should be solicited from your facility, local business, industry, television/radio, education, or community institutions.
- Facilities in a given region could loan one another lock-out systems and/or clocks on alternate dates if funding is not available for the purchase of this equipment. Facilities may want to contact local high schools or colleges to see if they will lend/rent their lock-out systems to facilities for Science Bowl.
- Examples of past sponsors include: bookstores (gift certificates), colleges (space for event), hotels (for students), fast food restaurants (event food or gift certificates), local rotaries (volunteers), local sports teams (tickets for prizes), and trophy companies (trophies).

DEVELOPING PRIVATE SECTOR PARTNERSHIPS

Establishing private sector partnerships is a critical component of a successful Science Bowl program. These partnerships provide technical as well as financial assistance. Science Bowl sponsors may desire to participate in many ongoing education programs throughout the year.

Many facilities and laboratories have had corporate sponsors that contributed money, gifts, prizes, scholarships, and food for luncheons. High schools, community colleges, and universities have allowed the competitions to be held on their campuses free of charge. It is essential that contact with local businesses begin early in order to secure sponsorship of gifts for the competition.

Trophies, gifts, and prizes should be donated by corporate sponsors. Both National Energy Technology Laboratories have numerous sponsors that provided money, gifts, and technical assistance; several utilities in California sponsored the various regionals in that state. Others have had several local pizza restaurants donate pizza for the competition luncheon.



ACADEMIC TOURNAMENT

Each regional site determines the schedule and format for the competition. Regional coordinators may choose from any of the formats below. There are advantages to following the format at the national event so that the winning regional teams are more acclimated, but each site has its own limits and talents. The choice of format will depend on available space (10 rooms versus 20 rooms), the number of volunteers, the number of equipment sets, and the number of teams. The three most common formats are:

- Round Robin/Elimination: Teams are divided into divisions to play within a division, then high teams advance to an elimination format. This format will take more time and space than the others.
- Single Elimination: Teams are either seeded or randomly matched up and once they lose a match are eliminated. Winners advance till there is one undefeated team. This is the most simple and fastest format.
- Double Elimination: Same as above but teams move to challenger bracket after one loss and are eliminated after two losses. Winner of challenger bracket plays undefeated team for title.

The "Coordinator - Resources" section of the National Science Bowl® website has sample Round Robin and Elimination brackets.

Marshall Middle School students competing in the Middle School Academic Tournament.

ACADEMIC QUESTIONS

There are multiple sets of questions to cover regional and national competitions. Depending on the location and event date, regional coordinators will receive one of the sets of questions in early January. The goal is to limit the chances that a visitor might overhear a question that they can answer in competition weeks later. Questions are written to match the grade level of the students and become progressively more difficult in later competition rounds.

DOE will have a group of science/math experts review and correct the regional questions prior to being sent to the regional coordinators. However, since no one is perfect, DOE encourages each regional site to have a team of experts review the questions before the event. Any feedback sent to DOE will be circulated to other sites. Please email question errata/feedback to tyler@jlab.org for circulation to other regionals.

Regional coordinators should collect printed questions after the event and destroy them. Do not release questions to teams, volunteers, or the media. These questions could possibly be used in the future or may be similar to future questions. Teams may find practice questions on the Web site.

NEVER share ANY questions with any regional winning team to assist them in practicing. For example, middle school students should not have access to past high school questions.

SCIENCE BOWL CENTRAL

Science Bowl Central (SBC) is designed to provide a central location for information prior to and between rounds of competition. Officials/volunteers check in here to receive their final briefing and room assignments. Team registration also occurs at Science Bowl Central. Visitors, such as parents, friends, newspaper reporters, or other media staff, will ask for information on the competition in progress.

Science Bowl Central should be staffed by at least two individuals throughout the course of the day. Their responsibilities include answering any and all questions pertaining to the competitions, scores, advancement of teams, etc. In addition, two to four individuals should "roam" the competitions to ensure that everything is running smoothly.

Primary Responsibilities:

- Serve as the source for competition information.
- Update Science Bowl competition scoreboards / flow charts – An overhead projector/ screen or an 8′ x 8′ wall-mounted chart can be utilized.

- Facilitate scientific challenges – A pool of scientific judges (one from each discipline) should be available in a designated area during each round.
- Collect questions packets and official scoresheets when they are turned in at the end of each round. You must collect all questions by the end of the competition day. These questions must be destroyed and not given to any teams, officials, etc.
- Have available tie-breaker questions, should they be needed. The need for these may occur at the conclusion of round robin play or at the end of a double elimination match.

Items that should be available at Science Bowl Central:

- Paper
- Pencils
- Magic Markers
- Extra Buzzer Systems and Official Clocks, if possible
- Extra light bulbs for Lockout Systems
- Extra batteries for Official Clocks

At the beginning of the competition, a few extra volunteers should remain at Science Bowl Central to serve as "emergency" officials in the event that one of the scheduled officials does not arrive.

SCIENCE BOWL EQUIPMENT

When equipment is a prohibitive cost, regional coordinators do network with each other to share equipment. The recommendation is to plan to share early so that the dates of the regional events allow for shipping/delivery. (Each system can cost $120-$800, and each competition room will need one system.) Other resources may include borrowing them from a local university quizbowl team or one of the local high school science bowl teams. It is also possible to have homemade systems.

Vendors for lock-out buzzer systems (in no special order):

- Novel Electronics: www.buzzersystems.com
- Quiz Systems: www.quizsystems.com
- Zee Craft: www.zeecraft.com
- Knowledge Master Quiztron III: www.greatauk.com/CompetitionEquip.html
- QuikPro Systems: http://www.quikprosystems.com/
- Show-Me Smart Light: http://tripleqquestions.com/

- Patrick's Press: www.patrickspress.com/Buzzers.htm
- JEM Designs: www.jemdesigns.com/products.html
- Groupics/Buzzers.com: www.buzzers.com
- Quizco QuizMaster: www.quizco.com
- Quiz Pro 2000: www.cp4e.com
- Shelty Systems http://www.shelty.ca/

Arizona Science Bowl has custom-quizzers made by Gene Holmerud (geneous@cox.net).

Recent Comments from Regional Coordinators:

- We use the ones from BuzzerSystems.com and love them. The lights are bright and easy to see, and the sounds are distinct and loud enough to be heard. They also have free shipping and it is INCREDIBLY quick.
- Our buzzers are Quik Pro. I like them because the recognition lights in front of each contestant are large and easy to recognize.
- All of our systems are from Quik Pro. Very dependable systems and great customer service. We are still using our 16 year old systems.
- Quizco system I was given this unit earlier this year after my competition was done. It is SIMPLE COMPACT & WORKS like a charm, and is only $230.
- We use the quizco system and have purchased about 15 the last year or so. The systems work well; the only problem we have had is shorts in the connecting wires that had to be replaced.

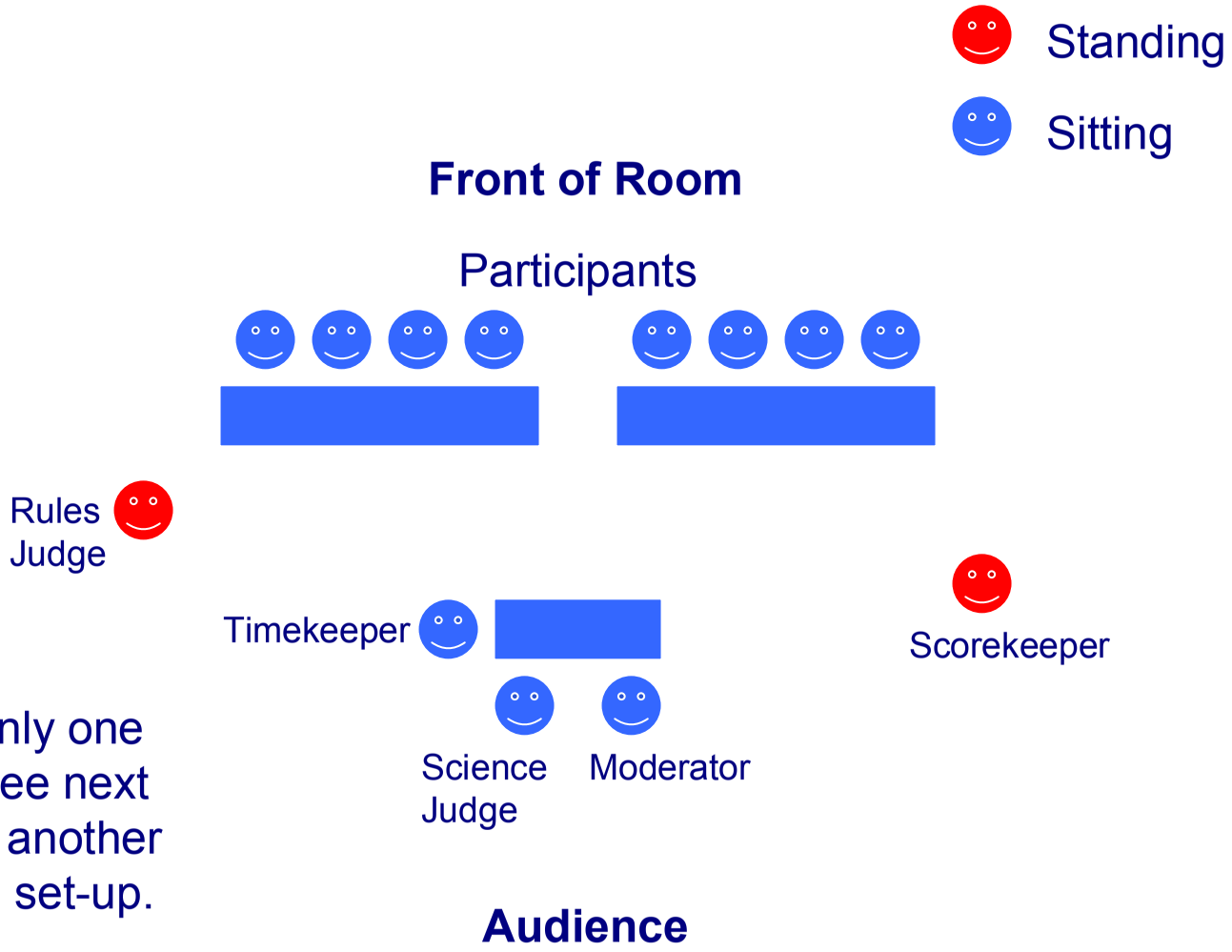
Official Clocks:

- Some facilities have used sports competition clocks purchased from their local sporting goods store. If computers are available, you may download a competition clock program.
- Others utilize a wall clock in the competition room.
- Stopwatches are recommended to time bonus questions, etc.

Overall Systems:

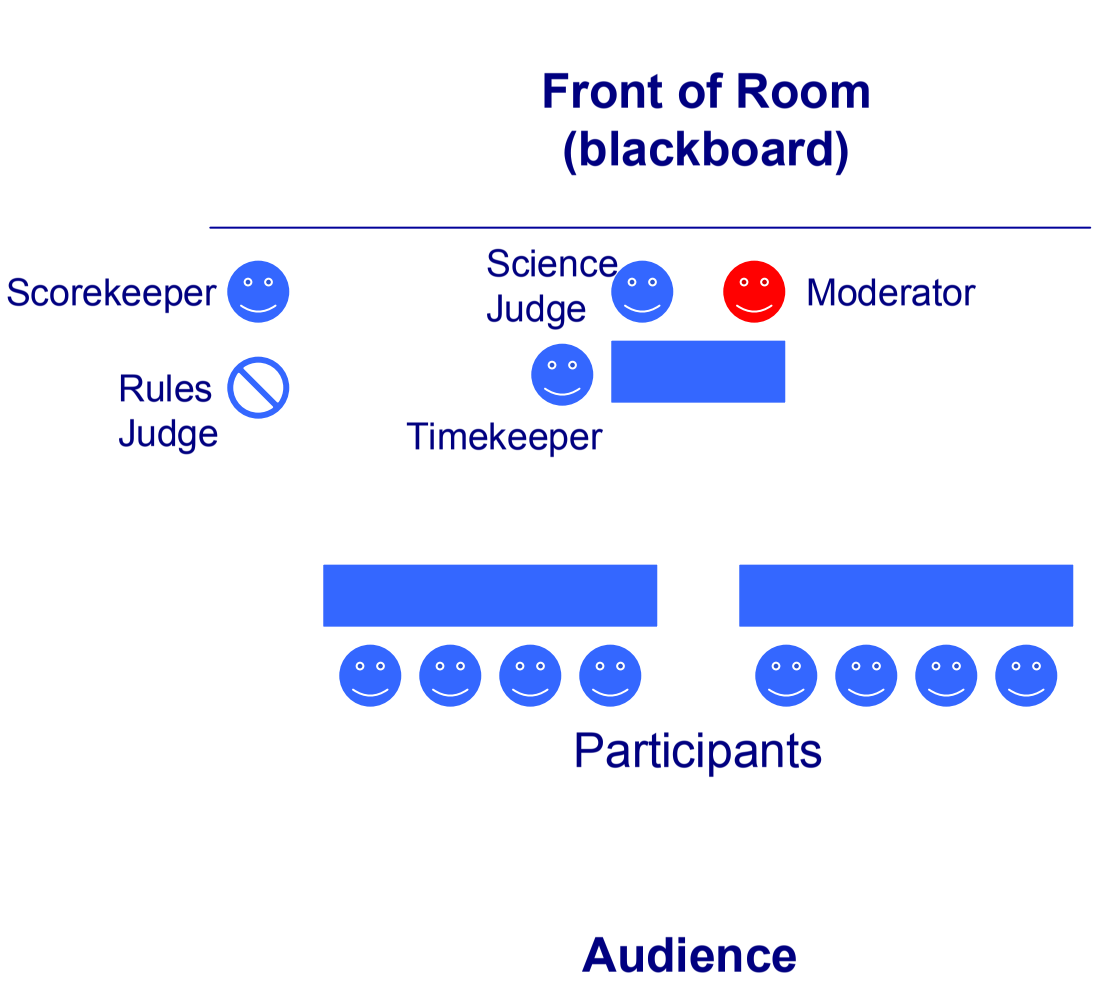
- Slammer Systems http://www.slammersystems.com/
- The New Jersey regional science bowl has a computer program available to use for competition – contact James Morgan (jmorgan@pppl.gov) for more info. Besides the automatic scoring/timing, the program sends an email to "Science Bowl Central" with the results, eliminating the need for someone to run a piece of paper from a competition room to your coordinator. The program is JAVA-based and will run on a PC or Mac.

NSB Competition Room Set-Up
(Audience can see students faces)



This is only one option, see next page for another common set-up.

Competition Room Set-up in University Classroom with limited volunteers (Audience cannot see students)



School furniture might make this the only option. Note that Mod can stand or sit. If only 4 volunteers, the Mod can also be rules judge, esp. if students cannot see audience.

REGIONAL COORDINATOR

The laboratory director, facility manager, education director, utility representative, etc. should appoint one person to coordinate the facility's Regional Science Bowl. This person will be responsible for planning and executing the regional competition, serving as the winning team's point of contact and working with the National coordinator. The regional coordinator will represent his/her facility at the National event by serving as the team's escort and can expect to be utilized throughout the National event. There are many tasks that the regional coordinators are assigned, from bus monitors, to seminar facilitators, to competition officials. This is work!

The coordinator may organize the facility's individual regional event in whichever manner may be desired. Many sites have a Science Bowl committee with members having specific responsibilities, such as volunteer coordinator, media, sponsors, etc.

Middle School-specific: The regional event may be either an academic competition or a combined hydrogen fuel cell-powered car race and academic event, including a solar-powered car race. It may be necessary to hold the combined academic/car race competition over a two-day period.

In order to ensure an easy transition to the National competition, we ask that each Region strictly follow these procedures:

- Host the regional event within the date guidelines so that the National coordinators can have the necessary information to plan their event. Regional competitions must be conducted between January 15 and March 5. All forms are due no later than March 11, 2011.
- In order to avoid misinterpretation of the rules at the National competition, the same rules should also be used for the regional events. **In order to prepare the teams, if the regional rules do deviate from the Nationals, the regional coordinator must send an e-mail to tyler@jlab.org stating the differences.**
- Solicitation of teams can be done in any manner that is fair and inclusive. Private, parochial, and home schools are all eligible to participate (see eligibility rules).
- Regional events are required to use the on-line registration process. The on-line system is used by DOE to evaluate the Science Bowl and was created so that information can easily submitted by each participating team.
- To qualify to send a team to the National event, a regional competition must be held and coordinated under the leadership of the Department of Energy's Office of Science.
- The regional science bowl coordinator should not be a team coach or assist in team practice. This will help avoid conflicts of interest, ensure integrity of the questions, and clarify roles/relationships of the coordinator to volunteers and to other coaches.

- A regional competition must have a minimum of ten schools signed up. First year regionals only need to have 6 different schools teams. There are no consequences if fewer teams show-up on the day of the event.
- Regional media coverage should be arranged through your local press office. However, only a few questions (fewer than 10) from the competition may be aired or published, and only in the interest of media use.
- Training of all personnel working at the regional and National competitions is mandatory. Moderators and scientific judges MUST have knowledge of the scientific material and be able to clearly enunciate the questions and properly pronounce the scientific terms. While rules judges, scorekeepers, and timekeepers need not have knowledge of the material, they must know the rules and be trained in the proper procedures. Sample training materials can be found on the Web site.
- The regional coordinator will provide the regional questions to the moderators and scientific judges prior to the competition. They are responsible for securing this material and returning it following the competition. To avoid problems regarding the security of the questions, moderators and scientific judges should not be related to any participating coach or student. All regional questions must be collected and destroyed after the competition.
- Once a team has won the regional event, the regional coordinator must immediately notify the National coordinator by selecting the winning team on the online system. Each regional coordinator is responsible for making sure that the winning team submits all necessary forms for the National event by the stated deadlines. The regional coordinator should gather, sort, and review all forms before sending them in as one complete team package. Forms are to be complete and legible.
- At the National finals, the representative team from each region must be composed of the same team members who competed in the regional event. Awards given at the National event will only be given to and used by the team members competing.
- Coordinators are strongly encouraged to attend and participate in the National Event.
- Coordinators are expected to maintain a connection with the DOE headquarters by reading all materials sent or emailed, participating in conference calls, and reading meeting minutes.

REGIONAL COORDINATOR FREQUENTLY ASKED QUESTIONS (FAQ)

When should I decide to host a regional event?

Interested sites contact the National coordinators during the August preceding the event (August 2010 for an event in January-March 2011). Every year, each site will need to fill out a Regional Registration Form which can be found online. It is best to check calendars for your location, sponsors, and volunteers, as well as the local school district calendar before choosing dates. You may always contact the National coordinators at any time of the year to express your interest.

Who is the regional coordinator?

The regional coordinator is any person who volunteers to be the lead contact for that regional event – this could range from a college student, professor, teacher, retired employee, home school parent, lab employee, or any other interested adult.

Who works on the event planning?

The regional coordinator often recruits 2–10 people to be on the Science Bowl committee. They can share the workload and better recruit volunteers and sponsors. You may want to have a committee member for different functional areas, such as recruiting and registering teams, recruiting and training volunteers, recruiting and picking up items from sponsors, creating program or t-shirts, trophies and prizes, setting up location, inviting media outlets, etc.

How much does it cost?

See Page 9 for details on regional expenses. DOE does not send money to regional sites, but it does provide the annual brochures, posters, and other promotional items, as well as the questions for the regional events. If you have access to discounted items, you can host an event with little money. The average event runs on less than $5,000. You can recruit sponsors to share the burden, and/or you can ask the teams to pay a registration fee.

Do I get paid?

DOE does not pay any regional coordinators, but some coordinators are paid a salary from their sites, or at least this is included in their job description. Most participate on a volunteer basis.

How much time does it take?

Depending on the size of your event, it can take more or less time. Most coordinators begin the planning process the summer before. Most events are one-day long, but some are a weekend, and still others host several sub-regional events to qualify for their regional event.

Who can I ask for help?

First, look through this manual for helpful tips. Then, contact DOE headquarters or any of the other regional coordinators. You will find most people have had similar experiences. See "who to contact" page at the back of this manual.

COORDINATOR ROLES AT NATIONAL EVENTS

Regional coordinators are encouraged to travel to the National events with their team, or to arrive one or two days earlier to assist with last minute preparations. Some sites send more than one representative while others rotate the responsibility.

Coordinators serve an important role on the event team – they work as competition officials, bus monitors, seminar presenters, car race officials, and helpers for a variety of tasks (stuffing goody bags, setting up and registering the teams, moving equipment, handing out awards, etc.) The job starts at 6:00 am and can last till midnight, so expect to be kept busy lending a hand. The National coordinator will provide a detailed line-by-line schedule with all the details and assignments in advance.

In addition to their responsibilities, coordinators are able to enjoy the energy from the teams, root for their own team, sightseeing, and network with fellow coordinators.

Coordinators are invited to provide feedback and suggestions about the National event, the question sets, or any other aspect of the science bowl.

TIPS FOR REGIONAL COORDINATORS FROM VETERAN COORDINATORS

Planning the Event

When planning your regional, spread the workload by forming a committee to handle jobs such as finding volunteers, procuring funds and necessary equipment, being responsible for the accuracy of questions, etc.

Select members for a Science Bowl team/committee with the following responsibilities:

- Sponsors – donations
- Training
- Public Affairs – media
- Food and Beverage – coordinates pick-up, set-up

- Administrative – mailings, receipt of packets from schools
- Question Review
- Divisional Assignments of Teams
- Equipment
- Competition Set-up
- Graphics – logo design, program, certificates

Have sponsor letters go out in August with return of monies/commitments by December. Accept all types of donations:

- Breakfast items (juice, bagels, donuts, grocery certificates to be used for coffee, etc.)
- Lunch items (cookies, fruit, beverages)
- Store certificates (Bagel Land, Dunkin Donuts)
- Money
- Give-aways (pens, stress balls, etc)

Create a list of important dates at your first meeting in June/July:

- Date of first mailing to schools
- Date intent to compete should be returned
- Date registration fee is due (if you have one)
- Date registration and other forms are due
- Date of training
- Date of competition (preliminary/final)

Get your notice out for volunteers in December:

- Mandatory training – two hours
- Minimum of two years volunteering before becoming a moderator
- Utilize children for runners
- Youth groups are given community service credit for volunteering
- Relatives and friends are a great resource
- Reward your volunteers – VERY IMPORTANT (shirts, luncheon with certificates)

Words of Wisdom

- Be flexible.
- Let all who help you carry their portion.
- Be prepared and allow the competition to care for itself.
- Start early (like July) to think about who and what you will need.
- Solicit volunteers from all avenues all year long.
- Remember that this competition is for the students; we just put it on.
- Everyone who comes should go home happy including the coordinator for sure!
- Get plenty of rest those final days before your competition.
- Training and practice for volunteers is crucial.
- New and previous volunteers benefit from this and improve your competition day.
- Get help for your competition in February for the next year's competition.
- Call another coordinator. They love to share their experiences and can help you a lot.
- Understand what your budget is (or isn't).
- Plan for inclement weather.

Surround yourself with an energetic, positive team.

- Empower them, praise them, bribe them.
- Don't try to control all of it, but assume the responsibility to see that things get done.
- Know that you can't please everybody, accept it and move on.
- You're going to make mistakes and you're probably going to be running the next regional competition, so there's time to make changes/improvements.
- Life isn't perfect – neither are regional competitions, just try to make sure that it's fair for everyone. If you have a crummy moderator, remember that he or she is equally crummy for both teams. It isn't perfect, but it's fair.
- Start your planning ASAP.
- Ask for help. Lots of us have been in your shoes and wouldn't mind helping out.

Scheduling and Volunteers

Be sure to find experts in every subject area to: (a) check over and amend the questions BEFORE Game Day and (b) be available ON Game Day for appeals. Know where they are at all times on Game Day for when questions arise.

Rounds should be scheduled 30 minutes apart – any more is too long for the regional events.

Take as many volunteers as you can get. Kids can be runners, teenagers can time/score, just make sure they are well behaved and under control. Train, rehearse, practice, practice, PRACTICE!

Moderators must be easy to understand, have good hearing, and know how to pronounce. Overbook your volunteers – you're bound to have no shows or late arrivals. Assign your "A Team" to early rounds.

Getting Schools to Participate

- Check with your State Board of Education for a current listing of high schools and addresses.
- Send a colorful poster/memo to the Science Department chair early in the school year – include a trinket of some sort: a keychain, mug – anything to get their attention. Then send a follow up a bit closer to competition.
- E-mail, snail mail or fax a sheet that teachers can return asking for more information or informally reserving 1, 2, or 3 team slots. It gives you an early idea what you're in for.
- All regional events use the on-line team registration system for schools to register a team for their event.
- Only accept as many teams as you can handle, looking at your facilities and number of volunteers.

Sponsorship

- Lots of folks want to be associated with educational assistance.
- Assign a very personal, persuasive person to be in charge of sponsorship. Ask for money, items, volunteers, etc....
- Radio stations will often give away CDs, T-Shirts, etc.
- Theaters will give away passes.
- Book stores will give away coupons; federal agencies will supply volunteers.
- Soda and pizza companies will donate food or cut you a deal.
- Start early – keep at it

On the Big Day

On Game Day, have plenty of volunteers to help with registration and general running.

- If you lack officials in sufficient numbers, the following can be doubled up if absolutely necessary: runner-timekeeper and scorekeeper-rules judge.
- In addition, if scientific judges are in short supply, the important function of reading the questions along with the moderator can be performed by just about anyone (and challenges in this case can be taken outside the room).
- Questions should be handed to runners one round at a time. (If not, there is a very real possibility that some moderator will read the wrong round's questions, which precludes their being used in their proper round.)
- Some coordinators give each moderator a binder with all the rounds of questions in it.
- Have at the very least one extra round of questions (even if you have to write them yourself). This is ESSENTIAL to take care of unforeseeable problems that may occur, such as teams going to the wrong room or the wrong questions being read in some round.
- It is very helpful to have the runner be responsible for knowing which two teams are to be playing in their room at the beginning of each round, to make sure the right two teams are actually playing.

If at all possible, set up the afternoon before competition: get the rooms organized, lock-out systems set up and tested, all supplies distributed, and signs up – and then have someone double check it all. Plan for problems – have extra lock-outs, extension cords, etc.

Use a checklist – it helps a lot.

Have a cell phone or two. Give the teams these numbers and use them as communication control. If there is an accident on the way in or if they are late, then they can call. Also let family members have the number for other types of emergencies.

It does not hurt to have a nurse or EMT on site. Allergies and stress can do weird things to kids (and coordinators).

Assign a core team to Command Central. They are the ones to answer questions, resolve challenges, and solve your problems. They should be experienced, firm but fair.

Have one person assigned to food delivery coordination. Get it there early.

Assign a cleanup team – do not assume that you're going to have help at the end of the day.

Things that DO go wrong:

- Plan for no-shows: unless you charge a fee, you are bound to have school no-shows.
- Plan your divisions/brackets for all sorts of contingencies. Volunteers may not always show up on time. Figure out the minimum you can get by with in each room... try to have some experience in each room. Scoring and timing can be done by the same person.
- Early rounds are usually when the moderators will make mistakes – skip over questions, read the wrong questions, give out answers prematurely – so go over this in training. If you have the luxury of extra moderators, assign the experienced ones to early rounds. Have the less experienced sit in and watch.
- Inclement weather – plan for it. Set up a system of notification and have a contingency plan.
- Equipment failures – have extra equipment on hand. Schools usually have their own lock out systems. Have them bring their systems as a backup.

AFTER THE EVENT

The Winning Team

- Click the winning team from the on-line system.
- Develop a relationship with the coach and team members.
- Have the information about Nationals ready. Discuss any conflicts right away. Ask about IB, Prom, Sports, other competitions – you might be sending the second place team instead, so have their forms, photo, etc. available.
- Provide them additional study resources (Web sites, topics, etc) to prepare them for Nationals.
- KEEP ON THEM about their forms – fill out as much as you can ahead of time.
- Provide information about the trip and contact numbers to the parents.

Web Site

- Keep your Web site up-to-date with regional information.
- Publicize regional winners.

Sponsors

- Publicize their support.
- Give them a shirt, certificate, program, thank-you letter.
- Ask them to speak to the students at your competition.
- Utilize complimentary tickets for school prizes or civility awards (e.g., museums, zoo).

Look for a co-sponsor(s).

- Local college
- Major science organization (e.g., Spectroscopy Society)

Equipment

- Replace old equipment on a yearly basis.
- Have equipment checked during Christmas/holiday time period, when individuals aren't as pressed with jobs/tasks (e.g., electricians).
- Let others know if you have equipment available to borrow.

Read the evaluation sheets, if you collect comments from participants.

- Send results of evaluation sheets with letters to the schools thanking them for participating. Let them know you care.
- Address the relevant issues. Always strive for improvement.

Please get forms in to the National office (and respond to their questions) in a timely fashion. Doing so makes everyone's lives easier!

ENHANCEMENT ACTIVITIES

Science Bowl should be more than an academic competition. Teams can learn more from a variety of activities that have them use different skill sets, that de-emphasize the competitive aspects, and that accentuate the networking environment.

You are encouraged to expand your event to include "enhancement activities" that may provide greater benefit by encouraging and reinforcing interest in math and science. Some examples of enhancement activities are:

- Guest speakers
- Facility tours
- College or career fair

- Internship fair
- Hands-on challenges (build highest tower, build bridge)
- Door prizes
- All-star awards
- Science demonstrations
- Build and race rubber band-powered vehicles or fuel cell vehicles
- Photos
- Sight-seeing trips
- Teacher workshops

Mira Loma High School students participating in the Division Team Challenge activity.

REGIONAL SCIENCE BOWL SAMPLE CRITICAL TIMELINE

AUGUST

- Identify Science Bowl point of contact.
- Determine date of Regional Science Bowl.
- Attend Science Bowl Planning Conference (every other year).
- Identify competition area (counties, entire State, multi-states, etc.) and estimate number of schools in competition.
- Submit request to DOE HQ to host a regional Science Bowl.
- Determine facility/building to have competition.

SEPTEMBER

- Regional Science Bowl sites will be selected and notified by DOE HQ.
- Coordinators' Manual is sent to all coordinators.
- Posters and brochures are sent to Regional Coordinators.

5 MONTHS PRIOR TO EVENT

- Recruit teams: issue announcement to schools in identified area.
- Send letters/brochures and contact area businesses/companies to seek sponsorship for the regional event, including gifts, prizes, etc. Sponsors will be recognized in the National program (see Tips for Regional Coordinators section for sponsorship information).

4 MONTHS PRIOR TO EVENT

- Notify coaches of selected schools.
- Provide coaches with Science Bowl information including:
  - Competition Rules
  - Sample Questions
    - MS: http://www.scied.science.doe.gov/nmsb/default.htm
    - HS: http://www.scied.science.doe.gov/nsb/samplqs.htm
  - Instructions on how to use the online system for online registration
  - Regional Forms (as required by your regional competition)
    - Medical forms (coach and student)
    - Parental Consent Form

- Notice of coach orientation meeting (optional) - the orientation meeting should be held approximately 3 months prior to event.

- Meet with your public affairs office to discuss your regional event and plan a media strategy (see page on media strategy).

3 MONTHS PRIOR TO EVENT

- Hold coach orientation meeting (optional).
- Secure lock-out systems, official clocks, and race track materials (middle school only).
- Determine whether or not to have a luncheon in conjunction with the competition and/or awards ceremony.
- Select and order trophies.
- Confirm sponsors.

2 MONTHS PRIOR TO EVENT

- Recruit officials/volunteers [moderators, scientific judges, rules judges, timekeepers, and scorekeepers] and race judges for the car race (optional – middle school only). Suggestions: post flyers and place a notice in the company newsletter requesting volunteers to assist with the Science Bowl, be sure to include contact names and phone numbers.
- Notify all officials/volunteers of MANDATORY training and practice sessions.
- This is the suggested deadline for student registration forms from competing schools. If some schools have dropped out, call those on the waiting list to see if they are still interested and if they are, direct to online registration form.
- Deliver fuel cell kits to teams (middle school only).
- Arrange for event publicity—work with the public affairs office to contact local newspapers, TV, and radio stations.
- Confirm donated gifts, awards, etc. from sponsors.
- Create gift bags for all participants (optional), prizes for winners—suggestions for winners include: trophies, calculators, gift certificates, savings bonds, etc.
- Design program (optional).
- Design tournament flowchart for academic competition and car race, if appropriate.
- Determine speaker for luncheon/awards ceremony (optional).

1 MONTH PRIOR TO EVENT

- Obtain trophies.
- Reproduce information packets for Science Bowl officials—be sure to include the rules and official roles for academic and car race (middle school only).
- Mandatory training session for all officials/volunteers with "mock" competition and car race (middle school only).
- Receive competition questions.
- Reproduce and send out question packets for moderators and scientific judges.
- Finalize and produce program.
- Finalize and produce competition schedule, scoreboards and car race heat cards (middle school only).

DAY OF EVENT

- Conduct Regional Science Bowl competition.
- Collect comment forms (optional) from officials and participants.
- Photograph winning team.

AFTER EVENT

- Immediately press selection button online, notifying DOE Headquarters of your winning team.
- Complete all National forms (see Forms section). DOE has automated the forms for both the regional and National event. Some will be completed and submitted directly online; forms requiring signatures will be completed online, downloaded, signed and sent via mail (see forms checklist).
- Send thank you notes to all officials, competing schools, and sponsors.
- Collect and mail all local media clips to DOE Headquarters.
- Make travel arrangements for the Regional Science Bowl Coordinator to travel to the National event.
- Assist with the competitions at the National event.

PUBLICITY

The Department of Energy National Science Bowl® and the regional competitions are excellent opportunities for positive stories about your organization's activities. With a little bit of planning and coordination through your public affairs office, you can receive press coverage of your regional event and your winning teams' participation in the finals. You may want to have all of your teams sign privacy release forms so you will have their parents' permission to take photos/video of them. At the national event, photos will be taken by a professional photographer and emailed to your local area newspapers for stories.

Suggestions to Increase Your Media Visibility

- Schedule a meeting with your public affairs office to discuss your regional event and plan a media strategy. Schedule this meeting early and meet more than once.
- Remember that media will want to focus on the "local interest."
- Know your competitors. Prepare biographies of team members and their coaches including hobbies, club memberships and honors, and background sheets on the participating schools.
- Know your sponsors. Prepare a background sheet that includes a quote from your sponsors on why they agreed to sponsor the competition.
- You may want to arrange for a backdrop behind the photos at the awards ceremony. Choose non-reflective material that will look good in the photos.
- Media outlets should include:
  - Public service announcements/calendar of events on radio and TV.
  - Calendar of events in newspapers (dailies, weeklies, advertisers, shoppers, high school) and magazines (State or Sunday supplement).
  - Feature stories in radio, TV, newspapers, and magazines.
- Encourage the competitors to contact their local media.
- Send out a press advisory to your list of media outlets before the competition and then a press release after the competition. E-mail reporters with event results and photographs.
- Have an event Web site and post photographs promptly after the event for reporters. Please link to the NSB Web site on your site.
- Videotape the event and provide footage to local television stations.
- Clip or tape all stories about the event, and send copies to DOE HQ.

SAMPLE MEDIA ADVISORY (before event)

Contacts: Diane Greenberg, (631) 344-2347 or Peter Genzer, (631) 344-3174
Science Bowl at Brookhaven Lab, January 29
January 25, 2011

EVENT: One hundred and twenty five students representing 25 high schools from Long Island will participate in a Regional Science Bowl competition, a fast-paced question-and-answer tournament designed to test their knowledge in biology, chemistry, physics, mathematics, astronomy, earth science and general science. Media representatives are invited to attend, although the event is not open to the general public due to space limitations.

WHEN: Saturday, January 29, from 9 a.m. to approximately 5 p.m.

WHERE: Berkner Hall, Brookhaven National Laboratory. The Lab is located on William Floyd Parkway, one-and-a-half miles north of Exit 68 of the LI Expressway.

DETAILS: The Regional Science Bowl at Brookhaven Lab is part of the National Science Bowl® competition coordinated by the U.S. Department of Energy's Office of Science. Since its inception in 1991, more than 140,000 high school students have participated in this "Jeopardy"-style contest. By participating in Science Bowl competitions, students are encouraged to excel in science and math and to pursue careers in those fields.

Similar to a sporting event, the competition is set up in a round-robin format of five divisions in the morning, during which all teams will compete, followed by another round-robin involving each division winner with a double-elimination final tournament in the afternoon. The team that answers the most questions correctly will win the top honor. All students will receive a Science Bowl T-shirt, and winning teams will receive a trophy. The first-place team will receive $500; second-place, $250; division winners, $100. All prizes and giveaways are courtesy of the event's sponsors: Brookhaven Science Associates, The Long Island Science Center, and Teachers Federal Credit Union. The first-place team will get to participate in the National Science Bowl®, which will be held in Washington, DC, on April 28-May 2, 2011.

All visitors to the Laboratory age 16 and over must bring a photo ID. Media representatives who plan to attend the event should notify Diane Greenberg, 631-344-2347.

2011 Regional High School Science Bowl Teams

* (Make a bulleted list of the schools/teams)

SAMPLE PRESS RELEASE (after event)

Thomas Grover Middle School Takes Top Prize at Regional Middle School Science Bowl
Princeton Plasma Physics Laboratory Hosts Competition

Plainsboro, New Jersey –On Saturday, March 11, Grover Middle School of West Windsor, N.J., won first place at the New Jersey Regional Competition of the National Middle School Science Bowl®. The competition took place at the U.S. Department of Energy's Princeton Plasma Physics Laboratory (PPPL) in Plainsboro.

Thomas Grover Middle School was among 20 teams from area schools who competed in the bowl that included two portions - a model hydrogen fuel-cell car competition and an academic, fast-paced question-and-answer contest in which students answer questions about earth, physical, life, and general sciences, and math. Each team is made up of four students, a student alternate, and a teacher who serves as an advisor and coach.

The U.S. Department of Energy sponsors the regional middle school competition. The Thomas Grover Middle School team will receive an all-expense paid trip to Washington, D.C., to participate in the National Middle School Science Bowl®, scheduled for April 28-May 2, 2011.

Final Results of the regional competition:
1st Place in the Academic Portion – Thomas Grover Middle School (West Windsor, N.J.)
2nd Place in the Academic Portion – Community Middle School (Plainsboro, N.J.)
3rd Place in the Academic Portion – John Witherspoon School (Princeton, N.J.)

1st Place in the Fuel-Cell Car Portion – John Witherspoon School (Princeton, N.J.)
2nd Place in the Fuel-Cell Car Portion – Joyce Kilmer School (Trenton, N.J.)
3rd Place in the Fuel-Cell Car Portion – Fisher Middle School (Ewing, N.J.)

PPPL hosts one of 37 regional competitions, all of which are sponsored by the U.S. Department of Energy. The top winners of the regional competitions receive all-expense paid trips to the National Science Bowl® scheduled for April 28-May 2, 2011 in Washington, D.C.

PPPL, funded by the U.S. Department of Energy and managed by Princeton University, is a collaborative national center for science and innovation leading to an attractive fusion energy source. Fusion is the process that powers the sun and the stars. In the interior of stars, matter is converted into energy by the fusion, or joining, of the nuclei of light atoms to form heavier elements. For more about PPPL go to: http://www.pppl.gov/
******End******
For further information, please contact: Anthony R. DeMeo; Head, Information Services; Princeton Plasma Physics Laboratory, (609) 243-2755; ademeo@pppl.gov

RULES DIFFERENCES BETWEEN HIGH SCHOOL AND MIDDLE SCHOOL EVENT

To simplify volunteer training and planning for both a middle school and high school event, the rules for the academic science bowl competition have only these few differences:

- The two events have different ages for eligibility.
- MSSB has 6 question categories; NSB has 7 categories (see rule #8). The question difficulty is different based on level.
- After the Round Robin tournament at the national event, teams advance to a seeded double-elimination tournament. Middle school team tiebreaks are decided by process in rule #43. High school team tiebreaks are decided by outcome of the Division Team Challenge.

RULES CHANGES IN 2011

The Questions

Rule 8 – New sets of question categories. High School: Biology, Chemistry, Earth and Space Science, Energy, Mathematics, and Physics. Middle School: Energy, Life Science, Physical Science, Earth Science, Mathematics, and General Science.

Challenges

Rule 32 - Teams are limited to two unsuccessful scientific challenges per round.

Tiebreaks at the National Event

Rule 44 – Details the selection of the 16 middle school teams advancing from the six-division Round Robin tournament.

Thomas Jefferson High School for Science compete in the Round Robin Competition.

2011 National Science Bowl®
Official Academic Competition Rules
Changes and clarifications in bold/italic

Eligibility Requirements

1. Each competing team consists of four or five student members (only four will be playing at any time). To be eligible to compete, a ***high school*** student must be enrolled for the current school year in grades nine, ten, eleven or twelve at the team's school, and be ***born after May 2, 1991***, or receive a special waiver from the Department of Energy. To be eligible to compete, a ***middle school*** student must be enrolled for the current school year in grades six, seven, or eight at the team's school, and be ***born after May 2, 1996 and before May 2, 2001***, or receive a special waiver from the Department of Energy. ***A student may not compete in both the middle school and high school events in the same year.***

   Teams of home school students, girl scouts, boy scouts and science clubs are welcome to participate; however, if the school a student attends is competing in a Regional Science Bowl, then that student may compete only on a team from that school.

2. No school or student group may compete in more than one regional competition. No student may compete on more than one team. Each regional coordinator will determine if more than one team from a middle or high school will be allowed to participate in that regional as well as the geographic area their regional will encompass. No more than 3 teams from one middle or high school or student group may compete in a regional event.

3. To be eligible for the National Science Bowl® finals, a student must have competed on the team that won the Regional Science Bowl or on the next highest place team that accepts the invitation if the first place team declines to attend. The winning team from each regional tournament is eligible to be invited to participate at the National finals April 28 - May 2, 2011.

   Middle School Winning Team to Attend National: If your regional event includes both a car competition and an academic event, the team that will go to the National Science Bowl® in Washington, DC will be the winning academic team. The winning regional car team will not attend the National Science Bowl® unless they are also the regional academic winning team.

4. By **March 11, 2011**, the winning team's coach is required to inform the National event coordinator of its availability to participate at the Nationals. During this time of the school year, students are participating in a variety of activities and academic events that may conflict with their participation in the National Science Bowl® (including, but not limited to, state athletic tournaments, proms, International Baccalaureate, Advanced Placement and SAT exams). In the interest of safety, continuity, and educational value, the National Science Bowl® requires students to take part in ALL of its events and activities. Therefore, no waivers will be granted or special arrangements made for students to participate in any conflicting activities or exams. If team members are

involved in these pursuits, the students will need to determine which activity or event is in their best interest and make their selection by **March 11, 2011**. All teams must arrive and depart on the designated dates and participate in all events, as scheduled throughout the duration of the National Event, including those on Saturday and Sunday. If the winning regional team (at least 4 students) is unable to participate in all activities, at all scheduled times, the next highest place team will be invited to replace them.

Competition Structure

5. Regional competitions have the option of choosing their tournament style, e.g. only double elimination, only round robin, or a combination of both.

6. The National finals will use a round robin tournament format with several divisions for the preliminary rounds. For the preliminary rounds at the Nationals, teams will be placed in divisions by drawing lots, with the number of teams per division as equal as possible. The number of teams in each division will depend on the number of teams participating in the competition. Each team will play every team in its division. At the end of each round robin match, regardless of the overall score, two points are awarded for a win, one point for a tie, and zero points for a loss. ***The top 2 teams from each high school round robin division will move on to the seeded double elimination tournament. The middle school double elimination tournament will include 16 teams: the top two teams from each of the six divisions, plus four of the six third-place teams (see Rule 44 for further details.)***

7. For games that occur in the elimination tournaments, if the score is tied at the end of the regulation time period, a series of five toss-up questions will be used to break the tie. Interrupt, blurt, and consultation penalties are in effect during tie-breaker.

The Questions

8. Two types of questions will be used: toss-up and bonus questions. A toss-up question may be answered by any of the four members of either team that are actively competing. A team answering a toss-up question correctly will always get a chance to answer a bonus question; the other team is ineligible. No consultation is allowed on toss-up questions. ***The high school question categories are: Biology, Chemistry, Earth and Space Science, Energy, Mathematics, and Physics. The middle school question categories are: Life Science, Physical Science, Earth Science, Energy, Mathematics and General Science.***

9. No team will have more than one opportunity to answer a toss-up question.

10. Questions are either multiple-choice or short answer. A participant may answer a multiple-choice question with either the letter answer (W, X, Y or Z) or the verbal answer; however, if the verbal answer is given, it must be exactly as indicated in the question or as read by the moderator. The only acceptable answer to a multiple-choice question will be the best of the four choices indicated in the question.

11. Once read in its entirety, a question will not be re-read.

12. For toss-up questions, the first player on either team to activate the lock-out buzzer system wins the right to answer the question, except that no player may buzz in until AFTER the moderator has identified the subject area of the question. If a player buzzes in prior to the reading of the subject area, the moderator will inform the player that he/she has buzzed in too soon. The moderator may add time back to the clock, if necessary.

13. On any toss-up or bonus question, the first response given, as determined by the officials, is the only one that counts. However, if a participant gives both a letter answer and a scientific answer to a multiple choice question, both parts must be correct. Any prefacing remarks that do not directly answer the question, such as "my answer is" or repeating the question, will be considered delaying the game and counted as an incorrect answer. (Note: a very short "um", "er", or vocal stumble is acceptable, provided the officials do not consider it delaying the game.)

14. If the first team's answer to a toss-up question is wrong and the question was completely read, the other team is given the opportunity to answer it. The second team is allowed a full 5 seconds to buzz in after the moderator indicates the answer is wrong or that a blurt or consulting has occurred.

15. The answer to a bonus question must come from the team's captain, including when the question has been interrupted. Moderators should ignore an answer from anyone but the captain on the bonus question.

Verbal Recognition & Consulting

16. Before answering a toss-up question, the team member who has buzzed in must be verbally recognized by the moderator or scientific judge. (Before the match, the official who will be recognizing participants will be identified.) If a student was not recognized, it is treated as a non-answer (blurt) and the moderator will award 4 points to the opposing team, but will not indicate whether the answer was right or wrong. The toss-up question is then offered to the opposing team, if still eligible. If the question has not been completely read, the question is reread in its entirety, and the opposing team has an opportunity to answer the toss-up question, and, if correct, a chance to answer the bonus question.

17. On toss-up questions, no consultation among team members may occur. Prior to buzz: Should consultation among any of the team members occur without a team member buzzing in, or if any team member should give an answer without buzzing in, any answer given does not count, the moderator will not indicate whether the answer given was correct or incorrect, and the team loses the right to answer the toss-up question. The question is then offered to the opposing team, if still eligible. After a buzz: If consulting occurs, the consulting is then classified as a blurt as in previous rule, and 4 penalty points will be awarded to the opposing team.

Timing

18. The match is played until either the time expires or all of the toss-up questions (and earned bonuses for correct toss-ups) have been read. Regional competitions will have two 8-minute halves with a 2-minute break (halves at the Nationals are 10 minutes). Each half begins with a toss-up question. ***Note: At the National Finals, some of the High School Double Elimination rounds will contain visual bonus questions. The rounds containing visual bonus questions will have two 12-minute halves with a 2-minute break.***

19. After reading a toss-up question, the moderator will allow 5 seconds for the two teams to respond before proceeding to the next toss-up question. Timing begins after the moderator has completed reading the toss-up question.

20. A participant who has buzzed in on a toss-up question must answer the question promptly after being verbally recognized by the moderator or scientific judge. After recognizing a participant, the moderator will allow for a natural pause (up to 2 seconds), but if the moderator determines that stalling occurred, it will be treated as a wrong answer.

21. After a team member has answered a toss-up question correctly, the team is given the opportunity to answer a bonus question. The team will have 20 seconds for its captain to begin to give its answer to the bonus question. Consultation among team members is allowed on bonus questions. ***Note: On visual bonus questions at the National Finals, the team will have 30 seconds for its captain to begin to give its answer to the bonus visual question.***

22. On a bonus question, the signal "5 SECONDS" will be given by the timekeeper after 15 seconds of the allowed 20 seconds have expired. Additionally, the timekeeper will indicate the end of the 20-second bonus period by saying "TIME." If the team captain has not begun the response before the timekeeper calls "TIME," the answer does not count. If the team captain has begun the response, he/she may complete the answer, but may not stall. ***Note: On visual bonus questions at the National Finals, the signal "5 SECONDS" will be given by the timekeeper after 25 seconds of the allowed 30 seconds have expired.***

Summary of Timing – Regional Events

Type of Question	Time Allowed
Toss-up	Teams have 5 seconds to buzz in after question is read. If no team has buzzed in, say "TIME"
Buzz in after Toss-up has been read	Must answer within natural pause (up to 2 seconds). If no answer, say "TIME"
Bonus	Team gets 20 seconds to discuss. After 15 seconds, Timer will announce "5 seconds". If no answer after 20 seconds, say "TIME"
End of Game	Each half is 8 minutes. At 8 minutes, say "Game". If team is in process of answering a question, just turn off the clock and announce "Game" when process of the question has been completed

Scoring

23. Toss-up questions are worth 4 points, and bonus questions are worth 10 points.

24. If a toss-up question is interrupted, the player recognized, and the answer correct, the team will receive 4 points. If the answer is incorrect, or if a player from the team buzzing in answers without being verbally recognized, or if consultation occurs on the team buzzing in, 4 points are added to the opposing team's score, the question is reread in its entirety, and the opposing team has an opportunity to answer the toss-up question, and, if correct, the chance to answer the bonus question.

25. The double interrupt. If a toss-up question is interrupted and a team incurs a penalty as in the previous rule, 4 points are added to the opposing team's score. The question is then reread in its entirety. However, if the opposing team interrupts the re-reading and subsequently incurs a penalty as in the previous rule, 4 points are added to the first team's score. The moderator will give the correct answer and move on to the next toss-up question.

26. If the moderator inadvertently gives the answer to a toss-up question without giving either team a chance to respond, no points are awarded and the moderator goes on to the next toss-up question.

27. If the moderator inadvertently gives the answer to a toss-up question before allowing the second team to respond (after an incorrect answer, or an answer given without the team member having been recognized) the next toss-up question will be read to the second team in place of the inadvertently answered question. If this situation occurs on question #25, the officials will obtain a replacement toss-up question.

28. On a toss-up question, if the moderator inadvertently recognizes a player other than the one who buzzed in, the player who buzzed in will be allowed to answer as though he/she had been correctly recognized.

29. On a bonus question, if the moderator inadvertently responds to someone other than the captain while indicating whether an answer is correct, the next bonus question will be read to the team eligible for the bonus. If this situation occurs on question #25, the officials will obtain a replacement bonus question.

Summary of Scoring

Type of Question	Points Awarded
Correct Toss-up Incorrect Toss-up	+4 points & eligible for bonus +0 points
Correct Bonus Incorrect Bonus	+10 points +0 points
Interrupted Toss-up: - Correct Answer - Incorrect Answer	 +4 points & eligible for bonus +4 points to opposing team
After a team member buzzes in: - Unrecognized Toss-up (Blurt) - Unrecognized Interrupted Toss-up (also a Blurt) - Consultation among players	+4 points to opposing team
Before a team member buzzes in: - Answering a toss-up - Consultation among players	+0 points but team will be disqualified from toss-up

Challenges

30. Challenges must be made before the moderator begins the next question, or for the last question of a half, within three seconds of the end of that half. All challenges must come from the four members of each team who are actively competing. The fifth team member and/or the coach may not object verbally or by signal. If either the fifth team member or the coach objects verbally or by signaling to the active team members, the challenge will not be allowed. All decisions of the judges are final.

31. Challenges may be made either to scientific content or to the application of the rules. Challenges may NOT be made to judgment calls by the officials, including but not limited to whether a question has been interrupted, whether 5 seconds have elapsed before a student buzzes in on a toss-up, whether 20 seconds have elapsed before a captain begins answering a bonus, whether a half has expired before a new toss-up question begins, whether a stall or consultation has occurred, whether a player has given a first response, or whether time should be added back to the clock.

32. ***Challenges to scientific content will be limited to two unsuccessful challenges per team per round, including tiebreaker questions. Successful challenges do not count against this limit. After the second unsuccessful challenge for a team during a round, that team will not be allowed any further challenges to scientific content during that round. Challenges to rules may be made at any time; however, whether a scientific challenge has been made and whether it has been successful are judgment calls, and may not be challenged, as per Rule 31.***

33. Should a question or challenge arise during a competition, the competition and the clock will be stopped until the question is resolved. Once the question has been resolved, the match will continue from that point. Should the moderator decide that some time was lost due to the interruption in play, the moderator will put the appropriate amount of time back on the clock.

34. If a team's answer to a toss-up question is judged incorrect, and they wish to challenge the ruling on the basis of scientific content, but the opposing team is still eligible for the toss-up, the first team should hold its challenge until after the opposing team has completed its toss-up opportunity. The first team should then state its challenge before the next bonus or toss-up question is read. If the challenge is upheld, the second team's answer will be disregarded and the time lost since the first team's answer was disallowed will be put back on the clock. The first team will then have the opportunity to answer the bonus question.

When Time Runs Out

35. If a toss-up question is begun before time expires in a half, that question will be finished under the usual rules of play, including the bonus if the toss-up is answered correctly. The half is then over. A question will be considered to have been begun if the subject area has been completely read. The second half will begin with the first toss-up question not read in the first half.

Miscellaneous Rules

36. Substitutions may be made only at the half. If a team has five players, the player who did not play in the first half may substitute for any of the four starters. Teams may switch captains, but only at the half.

37. No one in the audience may communicate with participants during the match; communication will result in ejection from the competition room. ***The officials may clear the room of coaches, alternates, and observers if communication is suspected.***

38. If someone in the audience shouts out an answer, the question will be thrown out (as will the person) and the moderator will proceed to the next question.

39. Prior to each match, the two team coaches will introduce themselves to each other and will sit together in the back row of the competition room.

40. No notes may be brought to the competition table. Nothing may be written before the clock starts. Scratch paper will be provided at the beginning of each match and collected at half-time and at the conclusion of the match.

41. Calculators are not permitted.

42. Members of the audience, including the teams and coaches, will not write down the questions/answers the moderator reads or use any electronic recording or transmitting device, including digital cameras, cell phones, or computers during the match. At the Nationals, coaches will be provided with a team score sheet to track the number of questions answered by each individual student on their team. No one else in the competition room is permitted to write or make notes of any kind during the active competition. If this occurs, the individual(s) will be asked to leave the competition room.

Rules for the End of Round Robin Tournaments at Regional Events

43. At the regional events at the end of Round Robin: A tie-break procedure in the following order will be used to determine teams that advance to the elimination tournament:

    (I) Head to head won/loss record

    (ii) If two (2) teams are still tied, there will be a five toss-up question tiebreaker (interrupt and blurt penalties in effect). No bonus questions will be used during this segment of the competition. If still tied, another five toss-up question run-off will be used, etc. until the advancing team is determined.

    (iii) If more than two teams are tied, each team, in separate rooms, will be given a series of ten toss-up questions (no bonus questions will be used during this segment of the competition). The usual five (5) seconds will be allowed for a competitor to buzz in after the question is completely read. There are no

interrupt penalties but also no reason to interrupt since all ten questions will be read. Scoring will be based on the number of questions right minus the number wrong. If two or more teams are still tied, procedure (ii) or (iii), as appropriate, will be used until the advancing teams are determined.

Rules for the End of Round Robin Tournaments at National Event

44. ***The middle school double elimination tournament will include 16 teams: the top two teams from each of the six divisions, plus four of the six third-place teams. At the end of the round-robin matches, any ties for first, second, and third places within a division will be broken using the procedures outlined below. Tie-breaker questions will consist of a set of five toss-ups and no bonuses, with the usual toss-up rules in effect, except where noted. When two teams are tied, they will play a head-to-head tiebreaker. When more than two teams are tied, each team will be given the same set of questions in separate rooms, with scores of +1 for each correct answer, -1 for each incorrect answer or blurt or consultation, and 0 for each unanswered question. These two types of tiebreaker matches will be referred to as "same-room" and "separate-room", respectively. Note: Once tiebreaker games have begun, head-to-head will results no longer matter.***

    (1) Divisional ties for first, second, and third places will be broken first. Head-to-head record in all round-robin games that involved two of the tied teams will be the first tiebreaker. If that does not settle the tie, then (a) if two teams remain tied for first place, a coin flip will decide the first and second places, (b) if two teams remain tied for second or third place, they will play a same-room tiebreaker, and (c) if more than two teams remain tied, they will play a separate-room tiebreaker. In cases (b) and (c), further ties will be broken by playing additional same-room or separate-room tiebreakers until first, second, and third places are decided, unless case (a) applies.

    (2) The six third-place divisional teams will next compete for four double-elimination positions in a separate-room tiebreaker. Additional same-room or separate-room tiebreakers will be played until the four qualifiers are identified. The four teams will be ranked according to their qualifying order (or score, if they qualify at the end of the same tiebreaker round, with ties broken by coin flips). They will then be placed by rank into the double-elimination tournament from the top of the bracket down, except that no team will play a team from its division in the first round. If necessary, a team will be switched with the next-lowest adjacent rank until this restriction is satisfied.

45. At the National finals for high school: In the event of ties for the two positions from each round robin division to qualify for the double elimination tournament, the rankings of the teams in the Division Team Challenge will be used to break the tie.

VOLUNTEER OVERVIEW

Many types of volunteers are needed to run each science bowl event. It is recommended that regional coordinators recruit and train volunteers in advance, so that the event runs smoothly. Photocopy the handouts in this section and share with the volunteers at the training sessions.

In addition to the volunteers helping at registration, Science Bowl Central, and various other activities, there are "teams" of 5 volunteers in each competition room during the tournament. Regional coordinators can decide to have less than 5 volunteers if there are not enough people. If there are only four volunteers per room, the scientific judge can sometimes serve as a rules judge. There are other options, as long as the rules are followed and the teams can participate fairly.

The typical competition room has 5 volunteers:

- Moderator
- Scientific Judge
- Scorekeeper
- Rules Judge
- Timekeeper

There are also volunteers to run scores to Science Bowl Central, to serve food, to clean up and set up, etc. Since training is not necessary for these roles, it can be a good fit for a middle school student or younger student who might need to earn service hours.

The science bowl appeals room should have either dedicated science experts or rotating Moderators and Scientific Judges. At a minimum, know the location of your scientific experts during the competition so they can be contacted in case of scientific challenges.

At volunteer training meetings, it is a good idea to get them to practice the game with the sample NSB® questions. Some regional sites hold a moderator audition, where volunteers practice reading questions. Practice sessions are more informative than handouts or lectures, because science bowl is a learned activity. There is a sample volunteer training Power Point presentation and a sample game on knowing the rules of science bowl on the Coordinator Section of the National Science Bowl® website.

MODERATOR

The Moderator is THE person responsible for controlling each match. It is important that you are familiar with how the game is played and all of the contest rules. The Science Bowl is an oral competition in which two student teams attempt to answer toss-up and bonus questions. Each regional competition round is divided into two eight-minute halves with a two-minute break. The Moderator completes the official score sheet for every match.

The first half begins as soon as the Moderator begins the first toss-up question. Before reading the question, the Moderator identifies: 1) whether it is a toss-up or bonus question, 2) the subject area, and 3) whether it is multiple choice or short answer. If a contestant elects to answer the toss-up question, he/she activates the lock-out system (an electronic device which "locks out" all other contestants and identifies the student who wishes to answer the toss-up question). The Moderator or the Scientific Judge will then verbally recognize the student. Should the student answer the toss-up question correctly, the student's team receives 4 points and is awarded a bonus question. A correct answer to the bonus question results in the team's receiving an additional 10 points. Play then continues by reading the next toss-up question to the two teams.

As a toss-up question is read, a student may interrupt the reading of the question. If the student is verbally recognized and he/she answers correctly, that team is awarded 4 points, and the team wins the right to answer a bonus question. If the student interrupts the question, is verbally recognized, but answers the toss-up question incorrectly, 4 points are awarded to the opposing team and the question is read in its entirety to the opposing team. That team may answer the toss-up question for a chance at the bonus.

A student MUST wait to be verbally recognized by the Moderator or Scientific Judge before beginning to answer the toss-up questions. If a student answers a toss-up before being verbally recognized, the response is ignored (i.e., the Moderator should not reveal whether the answer was correct or incorrect), then the opposing team is given 4 points and is offered the toss-up question. This rule is necessary to avoid situations where two team members think they have activated the lock-out system and blurt out simultaneous answers. If the student answers without buzzing, ignore the student and there is no penalty.

The game is over when the second half ends or when 25 toss-up questions have been read. The winning team is the one with the greater point total.

The Moderator will be provided with the questions well in advance of the actual event. It is important that the Moderator read all the questions before the competition to help ensure that he or she is able to read them smoothly.

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MODERATOR

What DO I Do ?

1. Introductions

- Introduce officials.
- Ask students to introduce themselves.
- Ask coaches to shake hands, introduce themselves, and to sit together in back of room.

2. Reading the Questions

- Announce whether it's a toss up or bonus question.
- Announce question category.
- Announce whether multiple choice or short answer.
- Read that question.

3. Who Won?

- Fill out official score sheet and get signatures.

Note: <u>At the end of each match</u>, the official score sheet should be signed and put in the corresponding round-numbered envelope. The packet should then, <u>immediately</u>, be taken to SBC by the Runner or official who will be going to SBC first.

Keep in Mind .....

Toss-Up ?	Bonus ?
No consultation among team members. (Shhhhhhhh)	Consultation is allowed, but the captain must answer.

Radium, -- No wait, I mean Radon!

Sorry, Charlie. The FIRST answer Counts

(The FIRST answer <u>always</u> counts.)

Challenge?

- Ask timekeeper to stop the clock

Minimum Requirements:

- Be able to articulate clearly and maintain a good pace
- Know and be able to apply all of the rules
- A science, engineering, math, or teaching background
- Read and review the questions prior to the event
- Be at least a junior in college

The Official Scoresheet with a script to guide the Moderator at the beginning of each match.

National Science Bowl®

Official Score Sheet

MODERATOR____

1. Record the names of the schools that will be participating in this match at the bottom of this sheet. Complete the other information as well.

2. Introduce yourself and the other officials.

   SCIENTIFIC JUDGE____

   RULES JUDGE____

   TIMEKEEPER____

   SCOREKEEPER____

3. Check the lock-out system by having each student introduce him/herself.

4. Ask the coaches to introduce themselves and sit side-by-side near the back of the room.

5. During Round Robin Rounds 1 and 2, read the "IMPORTANT RULES" sheet aloud. After these rounds, ask the students if they would like to hear the "IMPORTANT RULES" read aloud.

6. Record final scores in the space provided below.

7. See that the Rules Judge PICKS UP ALL PAPER at the half and at the end of the round! The students are NOT to take their scratch work out of the competition room.

8. After the team captains have signed below, please place this sheet in the envelope provided and give to your assigned runner.

,,,

SCHOOL_______________________________________FINAL SCORE___________________

SCHOOL_______________________________________FINAL SCORE___________________

COMPETITION ROOM _________________ ROUND_________ DIVISION __________

WINNING SCHOOL ____

By signing this form, you are accepting the final score of this match AS WRITTEN above on this sheet.

Captain, Team A____

Captain, Team B ____

"IMPORTANT RULES"

The Moderator must read the following before Round Robin Rounds 1 and 2. After these rounds, please give the teams the option of hearing the reading of the "Important Rules."

Please let me remind you of several important rules we will be carefully observing during this match.

1. **If Scientific Judge is recognizing the students:**
   On toss-up questions, you MUST be **verbally** recognized by the ***Scientific Judge*** before replying. The Scientific Judge will identify you by saying either Team "A One," "A Captain," or "B One," "B Three," etc.

   If Moderator is recognizing the students:
   On toss-up questions, you MUST be **verbally** recognized by me before replying. I will identify you by saying either Team "A One," "A Captain," or "B One," "B Three," etc.

2. On toss-up questions, there can be no conferring among team members **ON EITHER TEAM** at **ANY** time.

3. The only acceptable answer to a multiple-choice question will be one of those read by the moderator. If you give the scientific answer rather than the letter (W, X, Y, or Z), your answer must be **exact**.

4. **Challenges must be made before I begin the next question.** All challenges must come from the team members who are actively competing.

5. On bonus questions, you have 20 seconds **AFTER** I finish reading the question to begin your answer to the question. If you fail to begin your answer before the Timekeeper says, "TIME," you have missed your bonus question. You will hear the Timekeeper say, "5 SECONDS," when you have only 5 seconds left to begin your answer.

6. On the bonus question, only the team captain's answer will be accepted.

7. At the conclusion of each match, the two captains need to review and sign the Official Score Sheet. By signing the score sheet, each team captain is agreeing to the final score as written on the Official Score Sheet.

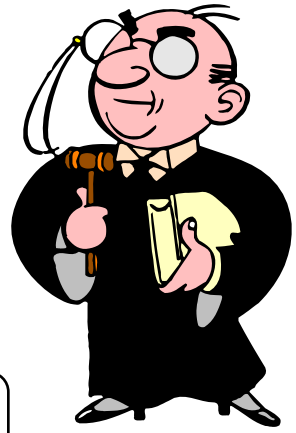
SCIENTIFIC JUDGE

The questions in each subject area have been reviewed by at least two individuals with subject expertise to eliminate erroneous or ambiguous questions. In addition, we have selected a multiple-choice format for many of our questions. This ensures against there being more than one correct answer (it's either one of our answers or the response is wrong).

1. Your primary duty as a Science Bowl SCIENTIFIC JUDGE is to resolve question challenges. Should a question be challenged, there are a number of steps that should be followed:
   - First, see that the competition clock is stopped.
   - Then, please bring the challenge to "Science Bowl Central." The organizing committee will either have someone on call or in the building in each of the math or science areas who can resolve the issue. Once you report a decision, that decision is final.
   - Should you feel that time was lost as a result of the interruption (5, 10, or 15 seconds, for example), check with the Moderator who may add that time back onto the clock before resuming the competition. Be certain to announce that you are "correcting" the time because time was lost due to the interruption so that all participants understand what is happening.
2. The Scientific Judge controls the buzzer lock-out system.
3. The Scientific Judge may also verbally recognize the student in place of the Moderator. This duty should be determined by the Moderator and Scientific Judge before the match and should be consistent for the whole match.
4. Ensuring that the Moderator has read each question correctly: You will be given a packet of questions identical to those of the Moderator. As the Moderator reads a question, please follow along to make sure the question is read correctly and that all words are pronounced correctly.

SCIENTIFIC JUDGE

What DO I Do ?



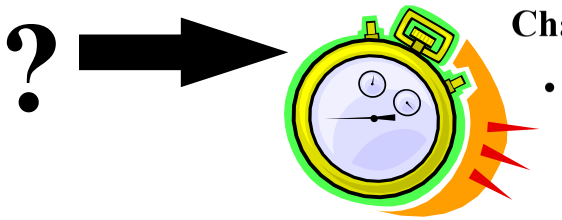
1. Follow questions read by moderator (ensure correct pronunciation).

2. Control buzzer system.
   - Wait to turn the flashing light off after the student has been recognized.

3. Getting the Answer

   - Verbally recognize the individual before she/he responds.
     - Identify student by....
       1) announcing Team A or Team B and
       2) announcing participant ID (captain, 1, 2, 3)

3. Challenges
   - Along with Moderator, request that clock be stopped during challenges.
   - All challenges go to the Appeals Room.



Challenge?

- Ask timekeeper to stop the clock.

Minimum Requirements:

- Be able to follow the competition flow
- Know and be able to apply all of the rules
- A science, engineering, math, or teaching background
- Read and review the questions prior to the event
- Be at least a junior in college

SCOREKEEPER

Your duty as a Science Bowl SCOREKEEPER is to:

1. Accurately award points and record the competition score. Scores will be recorded on a blackboard or easel that should be visible to all contestants and Science Bowl officials. The point awards are: 4 points for each correctly answered toss-up question and 10 points for a correctly answered bonus question.

   The only variations to the above are: (1) when a contestant buzzes in and INTERRUPTS a toss-up question while it is still being read, is recognized, and gives the wrong answer; or (2) when a contestant buzzes in and gives an answer before being recognized ("blurt"). 4 points are awarded to the opposing team. The opposing team then has the opportunity to answer the interrupted question after it is read in its entirety and, if it answers the toss-up correctly, receives another 4 points for the toss-up question and is then asked the bonus question.

   As you keep track of the score on the scoresheet or blackboard, two columns should be recorded for each team. In the first column, record the points a team receives on each individual question, with toss-up, interruption, and bonus points being recorded separately. The second column should contain a running total of the team's points. If recorded in this fashion, the point total can be checked at the end of the round.

2. Post-game. Announce the scores and help the Moderator complete the official scoresheet.

SCOREKEEPER

What DO I Do ?

1. Set up score sheet on flipchart.
2. Understand where to place points
   - Use a cumulative tally
3. Scoring
   - Toss up questions = 4 points
   - Bonus questions = 10 points
   - Penalty = 4 points
4. If a competitor interrupts the Moderator while a question is being read, and if the competitor answers incorrectly, the opposing team:
   - Is awarded 4 points
   - Has a chance to answer the toss up question (for an additional 4 points)
   - Has a chance to answer the bonus question (for an additional 10 points)

   (This is also true for unrecognized answers or "blurts.")
5. At halftime
   - Draw a double line with a total.
   - Announce scores for teams A and B.
6. At end of game
   - Announce the final scores. Do NOT call.
   - Sign the Official Score Sheet. Leave the flipchart score sheet in the comp room.

Team A				Team B			
	4	10	14				
				4	4		4
				4	4		12
	4		18				

Minimum Requirements:

- Be able to perform basic math skills quickly and accurately
- Be able to focus on the scoring in a competition setting
- Be comfortable standing as needed during competitions
- Be at least in eighth grade (depending on maturity)

RULES JUDGE

Your duties as a Science Bowl RULES JUDGE include:

1. Ensuring all competition rules are followed. To serve in this capacity, it is imperative that you fully understand all competition rules. Please review the competition rules before coming to the Science Bowl training session.

   During the competition, if you should have to discuss a rule with the Moderator during a round, please be certain that the clock has been stopped. If you feel that time has been lost, ask the timekeeper to make a time correction.

2. Watching the teams and audience. Stand near the front of the room to watch both teams for breaking the rules and the audience for signaling, recording questions, or distracting the teams or officials.

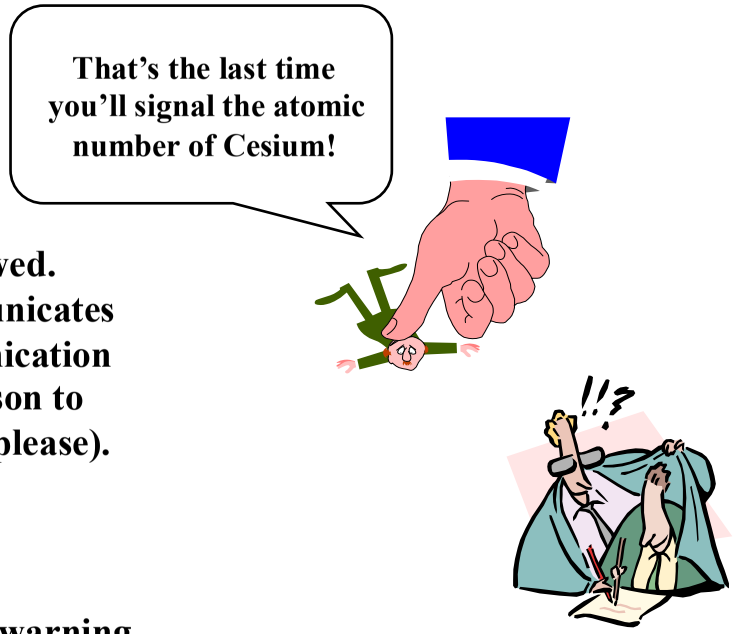
3. Watching for Scorekeeper errors. If, for example, Team A is supposed to get four points, the Rules Judge needs to make sure the Scorekeeper doesn't inadvertently credit the wrong team with those points.

4. Ensuring that quiet is maintained. During competition play, the Rules Judge is responsible for ensuring that quiet is maintained in the room and that no signals are given to the team members from the audience.

5. At the beginning of each half, check that all students have blank scratch pads and pencils. Collect any used scratch paper at the end of the half and discard.

RULES JUDGE

What DO I Do ?



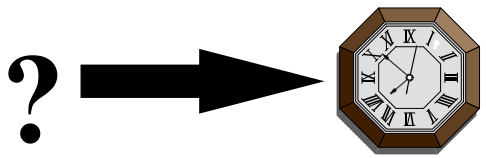
1. Stand in front of the room facing the audience.

2. Your role concerning rules:
   - You are responsible for ensuring that the rules are followed.
     - This includes ensuring that no one signals/communicates with the competitors during a match. If communication does occur, you have the authority to ask the person to leave the room (without causing undue duress -- please).
     - Ensure quiet.

3. Warnings
   - If a rule is broken you may, at your discretion, give one warning.

4. Collect all used scratch papers from teams at the beginning of the match, at the half, and at the conclusion.

5. Time
   - Ensure that the clock is stopped during discussions between officials, and between officials and students.



Challenge?

- Ask timekeeper to stop the clock.

Minimum Requirements:

- Know and understand all of the competition rules
- Be able to enforce the rules in a competition setting
- Be comfortable standing as needed during competitions
- Be at least a junior in high school (depending on maturity)

NATIONAL SCIENCE BOWL FOR HIGH SCHOOL STUDENTS - COACHES SCORESHEET

Subjects	**B** = Biology	**ES** = Earth & Space Science	**M** = Math
	Ch = Chemistry	**En** = Energy	**P** = Physics

Types	**MC** = Multiple Choice	**SA** = Short Answer

Points	**4** = Toss Up Correct Answer
	10 = Bonus Correct Answer
	4 = Interrupt Penalty Points Awarded to Opposing Team

Note to Coaches: This scoresheet was developed to assist coaches in tracking subject matter, type of questions, and scoring. No other use is allowed. You are still **not allowed** to write down questions.

Team A

Question	Subject	Type	Captain	Player **1**	Player **2**	Player **3**	Player **4**	Bonus Pts	Penalty Pts	Score
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										

Team B

Question	Subject	Type	Captain	Player **1**	Player **2**	Player **3**	Player **4**	Bonus Pts	Penalty Pts	Score
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										

NATIONAL SCIENCE BOWL FOR MIDDLE SCHOOL STUDENTS - COACHES SCORESHEET

Subjects	**ES** = Earth Science	**G** = General Science	**M** = Math
	En = Energy	**L** = Life Science	**P** = Physical Science

Types	**MC** = Multiple Choice	**SA** = Short Answer

Points	**4** = Toss Up Correct Answer
	10 = Bonus Correct Answer
	4 = Penalty Points Awarded to Opposing Team

Note to Coaches: This scoresheet was developed to assist coaches in tracking subject matter, type of questions, and scoring. No other use is allowed. You are still **not allowed** to write down questions.

Team A

Question	Subject	Type	Captain	Player **1**	Player **2**	Player **3**	Bonus Pts	Penalty Pts	Score
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									

Team B

Question	Subject	Type	Captain	Player **1**	Player **2**	Player **3**	Bonus Pts	Penalty Pts	Score
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
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TIMEKEEPER

Your duties as a Science Bowl TIMEKEEPER include:

1. Operating the official competition time clock. You will be provided with a clock that shows both minutes and seconds. At the beginning of each of the competition's halves, set the clock at 8 minutes (or 10 at the Nationals). If your site does not have separate competition clocks, you may use the clock in the competition room and make sure that both teams agree on when time will start. Both teams need to be able to see the clock. The clock should be started as soon as the Moderator begins to read the first question. The clock should be allowed to run uninterrupted until time expires UNLESS there is a question or a rules challenge. At half-time, call, "HALF" and at the end of the game call, "GAME."

   If there is an interruption, stop the clock until the issue is resolved. Restart the timer when the Moderator begins reading the next question. Add time back onto the clock if the interruption has unduly used competition time. Again, be certain to explain to the participants that a time correction is being made.

2. Keeping track of the time for bonus questions. Each time a team correctly answers a toss-up question, the team will be awarded a bonus question. The students have 20 seconds to begin to answer the bonus question AFTER the Moderator has finished reading the bonus question. After 15 seconds in the bonus period have elapsed, please say, "5 SECONDS." This is to alert the students that only 5 seconds remain in their bonus period. At the end of the 20-second time period you will simply say, "TIME." Please say this loudly enough for all participants to hear. Generally, it will be sufficient for you to time the 20-second interval by reading the clock provided for the match. However, a stopwatch may also be used for this purpose.

3. On toss-up questions, one of the teams must answer within 5 seconds of the Moderator's completing the question. Keep track of the 5 seconds allowed, calling "TIME" so that the Moderator will know to proceed to the next toss-up question.

4. At the conclusion of each half, reset the clock.

TIMEKEEPER

What DO I Do ?

1. **The basics ...**
   - It's very important to keep focused on the time -- NOT the game.
   - One match is composed of two 8 minute halves at the Regionals.
   - One match is composed of two 10 minute halves at the Nationals.

Toss-up Question
5 Seconds = "TIME"

2. **To begin ...**
   - Timer begins the clock when the moderator starts reading the first question.

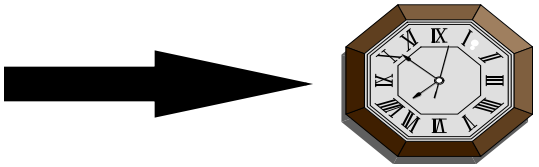
3. **Students have 5 SECONDS to answer a toss up question.**
   - After 5 SECONDS, announce "TIME!"

Bonus Question
15 seconds - "5 SECONDS"
20 seconds - "TIME"

4. **Students have 20 SECONDS to answer a bonus question.**
   - After 15 seconds, announce "5 SECONDS!"
   - After the total 20 seconds are complete, announce "TIME!"

5. **If there's a challenge, stop the clock.**

?



Challenge?
- Stop the clock.

6. **Adding time**
   - The clock cannot move backwards.
   - Track additional time on your watch, then start the game clock after that time has lapsed.

7. **Break and final time**
   - After the first half has lapsed, announce "HALF!"
   - Time the 2 minute break between halves.
   - After the second half has lapsed, announce "GAME!"

8. **Know the rules.**

Minimum Requirements:
- Know and understand the timing rules
- Be able to focus on timing in a competition setting
- Be at least a junior in high school (depending on maturity)

REGIONAL FORMS

Team Registration Form - Required

The registration form is on a secure Web site.

Coaches go to the Web site and create an account in order to register a team(s) for the regional event. Repeating coaches will need to create a new account each year. Coordinators should help the coaches in their region with any computer glitches; however, the DOE HQ staff are available as a backup resource. The online system allows regional coordinators to download a spreadsheet of their teams and keep track of dates when forms were submitted.

Immediately following the regional event, coordinators select the winning team's name to indicate to DOE-HQ that this is the winning regional team. Specific Instructions on how to select the winning team can be found on page 67. This will allow the winning team and the Coordinator to access a National view online and retrieve all necessary forms.

Regional Forms - Optional at Regional Level

Coordinators decide what forms they will need on a regional level. These are forms you may want to use at your regional and are also required at Nationals - they are located under the Resources link on the NSB® website:

- Student Medical Form
- Parental Consent Form
- Adult Medical Form

The team that will be traveling to the National event will need to submit several forms. If you use forms from the NSB® website, simply keep a copy of the forms for your winning team, and send the originals to the address provided on the Forms Checklist page. NOTE: It saves time if your regional event forms are identical to the national forms.

National Only Forms – Appear Online Only to Regional Winning Teams

- Team Commitment Form
- Travel Form (HTML)

FAQ ABOUT ONLINE SYSTEM

Where do I access the online system?

High School: http://www.scied.science.doe.gov/nsb/hs/coordin.htm
Middle School: http://www.scied.science.doe.gov/nsb/MS/coordinators.htm

What is my username and password?

Look at the label on the inside cover of your manual for your username and password. If you forget your password, there is a password notification with a security question on the log-in page; if you still cannot retrieve your password, contact one of the people listed below.

What does "agent done" mean?

You need to close/quit your browser completely, then open it and visit the site again.

I came back and it logged me out?

After 20 minutes, the computer will time you out in order to keep the information more secure. Just return to the login screen and login again. If there are problems, just close your browser and open it again.

How can I make a spreadsheet or database with the information from my regional teams?

At the top of the regional team information page, there is a link for "Download Contact Info." You can click this and save the data in an Excel spreadsheet file that can be used to do mail merges, make nametags, send letters, etc.

Can a coach have the same account every year?

No. They need to change their account information slightly because their previous information is still saved in the system. Suggest that they add the year to their username.

How can a student be changed on the registration form?

A coach can edit/save information, but once they click "submit," they need to ask the regional coordinator to change the information.

> **Instructions:** 1. Regional coordinator logs into the coordinator view with username and password. 2. Click on "regional teams." 3. Click on the team's name. 4. Click on the student's name to be replaced/edited. 5. You will see three columns – enter the updated information in column three. 6. Scroll to bottom of page and click "update information." 7. The team's registration form is now updated.

INSTRUCTIONS FOR TEAM COACHES

How to Register a Team Electronically

If you need assistance at any time, contact the regional coordinator for your area with questions. The following are the minimum system requirements to run the online application: Netscape 4.5 or higher or Internet Explorer 5.5 or higher; cookies enabled; JavaScript enabled; and SSL enabled.

1. Visit the web site: http://nationalsciencebowl.energy.gov.
2. Click on "Events." Select Middle School Regionals or High School Regionals.
3. Click on your state.
4. Check to see which site covers your area.
5. Click on "Account Creation Form" to create a new account. Note: Coaches from last year will need to create a new account each year.
6. Follow the instructions and submit to log in.
7. After logging in, an instruction page will pop up. Click on "Start your registration."
8. Type the information into the fields. The information will be on a secure site, so personal information will be protected. If the student is a foreign national, they need to provide their passport number and expiration date. Note: The server will time out after 20 minutes so remember to save your information regularly.
9. Click "save for future editing" if you need to come back to the registration.
10. Click "submit registration" when the information is complete.
    Note: Once the data is sent, you can make changes only up until the decided registration deadline. The deadline is selected by each coordinator based upon when their regional event will be held.
11. After submission, the regional coordinator will confirm your participation and you can make any team changes through them.
12. Save your user ID and password for return visits. When you return to the site and log in, you will be given other information. If you forget your password, there is a password notification with a security question on the log-in page; if you still cannot retrieve your password, contact the regional coordinator for your area.
13. IMPORTANT: Once you have created an account, you do not need to visit your state page. Instead, go to the general coach page to access the system.
    For High School Coaches: http://www.scied.science.doe.gov/nsb/hs/coaches.htm
    For Middle School Coaches: http://www.scied.science.doe.gov/nsb/ms/coaches.htm

All other forms (medical release, parent consent, etc.) are on the Web site in PDF Form Filler.

INSTRUCTIONS FOR COORDINATORS

How to Approve a Team for Regionals

All teams must be approved for Regionals in order to be selected as the winning regional team

1. Visit the appropriate Coordinator Page:
   - High School: http://www.scied.science.doe.gov/nsb/hs/coordin.htm
   - Middle School: http://www.scied.science.doe.gov/nsb/MS/coordinators.htm
2. Log in using your user ID and password
3. After logging in, you will see a Welcome page. This page shows whether the Site Registration Form was received and has two highlighted links. The two links read: "Regional Team Information – All" and "Regional Team Information – Approved for Regionals"
4. Click on the first link: "Regional Team Information – All"
5. This page will allow you to do one of two things:
   - You can create a new account for a Coach. This allows the Coordinator to create a user ID and password for a coach. The Coordinator would want to set up a coach account if the Coach was having trouble setting up the account. This is NOT the team registration. This only sets up an account for the Coach.
   - You can approve a team for Regionals.
6. So long as a team has begun and saved their team registration, no matter how far into it they are, the team's information will appear on the "Regional Team Information – All" page.
7. To the far right of the "Regional Team Information – All" page, there is a column that says "Approve for Regionals."
8. If a team has begun their registration, there will be a box under this column. Click on the box and press "Save Updates."
9. Go back to the Welcome page and choose the second link, "Regional Team Information – Approved for Regionals."
10. The team that you just approved should now be listed on this page.

How to Select the Winning Regional Team

Once your regional event is completed and you have a winning team:

1. In order to select the winning regional team, the team must have already been approved - see previous page for instructions.
2. Log in to the appropriate Web site using your user ID and password.
3. After logging in, select the second link, "Regional Team Information-Approved for Regionals."
4. There is a column entitled "Teams" where the name of the schools and team numbers should be listed.
5. Click on the winning team name under this column.
6. A page should open that lists the name of the students and the coach on that team.
7. At the bottom left of the page there is a box that reads, "Select this team as the regional winner." NOTE: If the team has not submitted their Team Registration Form or if the team was not approved for regionals, the system will not allow you to select them as the winning team.
8. Click on the box and press Update.
9. Go back to the Welcome page.
10. A third link entitled, "Coordinator Status – Nationals" should now be highlighted.
11. The Coach of the winning team will now be able to see a National view when they log in and will be able to access the online travel form as well as all of the other National forms.
12. The "Coordinator Status – Nationals" page will have all of the Coordinator forms and information.

Preparing Team Biographies

This information is to be submitted on-line for the winning regional team.

Have students write a biographical paragraph, written in third person, which will be included in the National program booklet. In addition, the coach should also prepare a biography.

The following is a list of interesting details that can be included in the biographies.

Students:

- Grade and School attended
- Interests and hobbies
- Activities and clubs

- Favorite subjects in school
- Future plans for college and career
- Interesting facts about yourself
- The three most important science discoveries to you

Coaches:

- Subjects and school where taught
- School clubs
- Hobbies and Interests
- Length of time as a teacher
- Colleges attended and areas of study
- Interesting facts about yourself

Examples:

Jane Doe is in the eighth grade. Her interests and hobbies include reading, chess, violin, computers, science, math, knitting, writing, and soccer. She is involved in Varsity Orchestra, MathCounts, UIL, Chess Club, National Junior Honor Society, and Girl Scouts. Her favorite subjects are science, algebra, and Spanish. She plans to attend ABC University and double major in computer science and computer engineering. She would then like to work as a computer programmer. Jane plays the violin, attended the state Math Counts competition, and earned the Girl Scouts Bronze award.

John Doe is an eighth grader whose hobbies include reading, playing chess, and solving Rubik's cube. He is involved in MathCounts, UIL, Chess Club, and National Junior Honor Society. His favorite subject is algebra. He plans to attend MIT and obtain a Ph.D. in engineering. Some interesting facts about him are that he can solve a Rubik's cube in under a minute, plays the cello, and likes spinach.

This information will be submitted ON-LINE – the coordinator will have to approve each participant's biography before it can be printed.

I'M CONFUSED - WHO CAN I ASK FOR HELP?

Jan Tyler – 757-880-3359 – tyler@jlab.org
Yolanda White – 202-586-6702 – Yolanda.White@science.doe.gov
Molly Kubic – 202-586-3888 – Molly.Kubic@ science.doe.gov

PRINTING LIST

This list is helpful when estimating costs and planning tasks. Regional Science Bowls may use some or all of the following in preparation and during their event:

- Invitation letters to teams, volunteers, sponsors (and postage)
- Registration materials for teams
- Question binders for moderators to read from
- Scoresheets to use during the competition*
- Program book*
- Scoreboards to display
- Numbers for teams to draw for competition placement
- Team name tents
- Table signs for students "competition tents" (Team A Student One...)*
- Signs inside and outside rooms and buildings
- Scoresheets for coaches to use*
- Volunteer schedules, instructions, and thank you letters
- Name badges, lanyards
- Meal tickets
- Materials for enhancement activities
- Certificates, checks, prizes*
- T-shirts for teams and/or volunteers
- Pens, bags, other give away printed items

  * Samples are online at www/scied.science.doe.gov/nsb/HS_resources.htm

Each year, the National event uses a different theme, such as "science to the core," or "zoom into science." Regional events are encouraged to adapt the theme to fit the local flavor or to go with a separate theme. The National artwork will not be provided to the regional events to co-opt.

You are welcome to use the black and white images on the logo sheet provided on the website and to edit and use the student certificate on the website.

Please highlight on your materials that this event is part of the U.S. Department of Energy's National Science Bowl. Use the official NSB logo and include the Dept. of Energy in every press release. The public awareness of your event helps the awareness of the national event and to get positive media attention for the students and corporate support for the NSB. You can download the DOE logo from this web page:
http://management.energy.gov/administrative_services/DOE_Logo.htm

HYDROGEN FUEL CELL CAR COMPETITION

The National Science Bowl® Hydrogen Fuel Cell Car Competition is a classroom-based, hands-on educational program for 6th, 7th, and 8th grade students. Student teams apply math, science, and creativity to construct and race model hydrogen fuel cell powered car.

The primary goals of the programs are to:

- Generate enthusiasm for science and engineering at a crucial stage in the educational development of young people;
- Improve students' understanding of scientific concepts and renewable energy technologies; and
- Encourage young people to consider technical careers at an early age.

As a result of participation in this event:

- Students use mathematics and science principles together with their creativity in a fun, hands-on educational program;
- Using engineering principles, students get excited about generating ideas in a group and then building and modifying models based on these ideas;
- Students can see for themselves how changes in design are reflected in car performance; and
- Students work together on teams to apply problem solving and project management skills.

The National Science Bowl® Hydrogen Fuel Cell Car Competition challenges students to use scientific know-how, creative thinking, experimentation, and teamwork to design and build high-performance model vehicles.

NOTE: If your regional event includes both a car competition and an academic event, **the winning team that will go to the National Finals in Washington, DC, will be the regional academic Science Bowl team** NOT the winner of the car competition.

2011 National Science Bowl®
Official Hydrogen Fuel Cell Competition Rules

Competition Structure

1. The national event will use preliminary time trials before progressing to a double elimination tournament for the finals. Each team will have two time trials to achieve their fastest time. Any car that does not finish in 40 seconds will be considered a Did Not Finish (DNF). Only the fastest sixteen teams will progress to the double elimination tournament. In the event of a tie, to qualify for the double elimination tied teams will have a race off.

2. There are two components to the national competition:
   a. Design Document: At the national competition, each team must provide design notes for their car before being allowed to compete. The design document is not a daily journal. It is an engineering schematic. Minimum requirements include a complete component list for the vehicle, final specifications of the vehicle (body measurements, weight, gear ratio, drive type, top speed), scaled drawings, assembly procedures, at least three issues or problems encountered and solutions applied, and photos of the car and/or its construction. This document will not be returned to the team, and parts may be made public.

   b. Speed Race: Student teams will be provided a fuel cell, motor, and a battery pack. Students must use the unaltered fuel cell, motor and battery pack that was provided in the fuel cell kits as the only method of charging and driving the car. The rest of the car design and components will be up to the creativity and ingenuity of the students. All cars must be designed and built by the students with limited assistance from the coach or other non-team members.

NOTE: All cars must be built by the students with limited assistance from the coach or other adults. **This is a student competition!**

Race Specifications

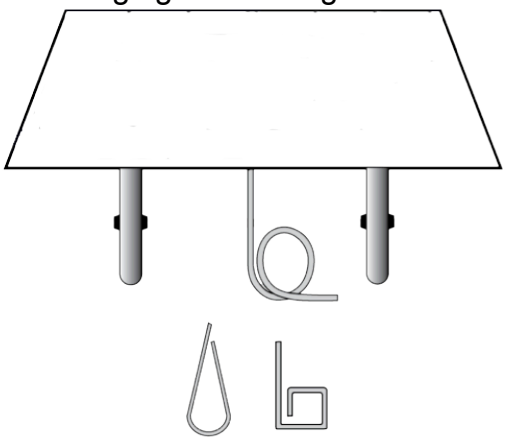
3. A fuel cell kit will be provided to the winning academic regional teams following their regional events. Each regional winning academic team must bring a completed and functional hydrogen fuel cell car to the National event.

4. The vehicle must be safe to contestants and spectators, e.g., no sharp edges, projectiles, etc. The vehicle cannot exceed the following dimensions: 20 cm wide. by 40 cm. in length by 20 cm in height. Decals of the sponsor organizations (provided at the National competition) must be applied and visible from the side, top or front of the body of the car. A 3 cm. by 3 cm. space must be left for the assigned car number and sponsors.

5. Energy Source: The electricity needed for the electrolysis procedure will be provided by the battery pack that was included in the fuel cell kit. The electrolysis will be completed

in a designated charging area prior to the start of the race. For the National event, the electrolysis will be completed at the starting line. The only energy source permitted on the vehicle is the fuel cell with the hydrogen that was produced from the electrolysis procedure.

6. Steering: A guide wire attachment must be attached to the car. In addition, the car must be attached to the guide wire throughout the race. An example of a possible design is illustrated below. A guide wire such as a fishing line will be no more than 1.5 cm. from the surface of the track, will go through the attached guide wire attachment(s) on the car, serving as the steering mechanism, and keeping the car in its lane. The vehicle must be easily removed from the guide wire, without disconnecting the guide wire. This is the only allowable method of steering the car. No radio control is permitted in the cars. Lane changing or crossing will result in a DNF.



7. The guide wire attachment must be used for steering only and must be directly hooked onto the guide wire. The guide wire attachment should not be used to support the vehicle such as a grooved spool located on top of the car guiding the car down the track. All wheels must be in contact with the track.

8. The length of the race course is 10 meters over flat terrain. Race lanes are at least 60 cm. wide. The guide wire will be located in the center of the track and will not be more than 1.5 cm. above the track surface. The track can be a hard, flat, smooth surface such as a tennis court or running track. A large sheet of rolled material, i.e., plastic, rubber, heavy paper, roofing paper (half-lap), or hardwood taped or bolted together may be used to cover an uneven surface. For the National competition, the track will be a black neoprene rubber material.

Race Conduct

9. Charging Station: The battery pack received in the fuel cell kits must be used to supply the electricity needed for the electrolysis procedure. At regional competitions the solar cell that was provided in the teacher kit can be used to supply the electricity.

10. Race Day Electrolysis Procedure: Before the scheduled race start, all teams must report to the designated charging station with their hydrogen fuel cell car. Distilled water will be provided at the charging station for the electrolysis process. To manage the

charging area, teams that are in the staging area and are scheduled to race in the next heat, will be given priority in the charging area. There is no time limit on the electrolysis procedure – a team may report to the charging station as early or late as practical; however, teams will have ONE minute to be ready to start their race at the specified time. The only energy source permitted on the vehicle is the fuel cell with the hydrogen that it produced from the electrolysis procedure.

11. There will also be a repair table set up separate from the recharging area to help facilitate quick repairs to the cars. Again, teams that are scheduled to race in the next heat will be given priority in the repair area. There will be a 3 minute time limit for repairs.

12. At race time, the vehicle will be placed behind the starting line with all its wheels in contact with the ground. No more than two team members will be allowed in the start area.

13. An early start or push start may result in a DNF for that heat.

14. All vehicles will be started when the official signal is given. Each car will have two timed speed trials. The top sixteen cars with the fastest times will advance to the final competition to race for first, second, and third place.

15. The judges will note the official time on the heat card. If the car does not finish the race, it will be noted as a Did Not Finish (DNF) on the heat card.

16. At least one and no more than two team members must wait at the finish line to catch the vehicle.

17. Team members may not accompany or touch the vehicle on the track. Vehicles stalled on the track may be retrieved after the end of the race has been declared by the Lead Judge.

18. The vehicle and team member must remain at the finish line until the time of the race has been noted on the heat card.

19. Challenges must be made before the race judges begin the next heat. All challenges must come from the team members who are actively competing, not the coach, parent or coordinator and all challenges need to be directed to the lead judge. The decisions of the race judges are final.

20. Only competing students and race officials may be in the race area. All others including coaches, parents, coordinators, and non-competing students must remain in the spectator stands through the duration of the races.

21. Judges will inspect cars prior to the final heat or at anytime during/after heats.

PREPARING FOR NATIONALS

Once the regional coordinator has selected the winning team on-line, the process starts for planning their trip to the National event (see instructions below). Students and coaches will have many questions, so please refer them to the National Science Bowl® web site for the latest information on schedules, locations, what to bring, etc. It is the responsibility of the Regional Coordinator to ensure all of the forms are completed and submitted/mailed. The ideal situation is for the regional coordinator to gather, sort, and review all forms before sending them in one complete package. Forms are to be legible and every field completed.

Once the Coordinator has selected their winning team, the team gets access to a new National Web page where all of the National forms are located. The coach needs to then follow the instructions below.

Coaches should login to: http://www.scied.science.doe.gov/nsb/hs/coaches.htm (high school) or http://www.scied.science.doe.gov/nsb/ms/coaches.htm (middle school) to get to the team status page.

1. Coaches MUST complete and submit the Online Travel Form (one form per team).
2. If the team has not previously completed parental consent and medical forms (from the 2011 regional event), please complete and mail. The forms can be downloaded from the National Science Bowl® website.
3. Complete the following National forms:

   Team Commitment Form
   - Requires original signatures in blue ink only
   - http://www.scied.science.doe.gov/nsb/pdf/Team_Commitment.pdf
   - Student/parent to complete using pdf form filler on Web site, then print and have student and parent sign hard copy
   - Coach signs and mails
   - Must be received before airline tickets will be purchased

   Team Profiles (see instructions on website)
   - Coach submits online and coordinator approves

   Team Photo
   - Coordinator uploads to web with caption identifying people in the photo

Check your status page to view which forms have been received. The check box next to each team member's name will be marked when a complete form is received. If you have technical questions, please contact the National Coordinator. ORISE will work with the team to make travel arrangements. Problems with team travel arrangements will be directed to the regional coordinator, and if still needed, will be then addressed by the National Science Bowl coordinator.

SCIENCE BOWL FORMS CHECKLIST

Send to Jan Tyler – Immediately

[ ] Complete online selection of winning team immediately following your regional competition

[ ] Send email to tyler@jlab.org explaining how regional rules differed from Nationals (Only if regional rules were different)

FORMS – Due ASAP (no later than March 11, 2011)

[ ] Online Travel Form (1 form per team) – available online to coaches after regionals

[ ] Original Student Medical Release Forms – PDF Form Filler – Blue Ink Only for Signatures

[ ] Original Parental Consent/Media Release Forms – PDF Form Filler – Blue Ink Only for Signatures

[ ] Original Coach Adult Medical Release Form – PDF Form Filler – Blue Ink Only for Signatures

[ ] ORISE Adult Media Release Form (1 form per adult) – online to coaches after regionals

[ ] Team Commitment Forms (1 for each student) – PDF Form Filler – Blue Ink Only for Signatures – available online to coaches after regionals

[ ] Team Profiles – complete and submit from National Science Bowl® Web site

Send ALL Middle and High School Team Forms to:

Ms. Norma Ward
Oak Ridge Institute for Science & Education (ORISE)
P.O. Box 117, MS-36
Oak Ridge, TN 37831-0117

FedEx Address:

Ms. Norma Ward
Oak Ridge Institute for Science & Education (ORISE)
1299 Bethel Valley Road
Building SC-200
Oak Ridge, TN 37831
(865) 241-2890

FORMS FOR COORDINATOR

All forms can be found on the National Science Bowl® online system. It is a good idea to photocopy all forms before mailing them. Also, while traveling, the coach may want to carry a copy of the forms with them. If a student completed a form in January and there are updates to be made because of recent injury, etc., please contact the National Coordinator.

[ ] Committee & Sponsor Form – to complete on Web site

[ ] Coordinator Attend Nationals Form – please complete even if NOT attending

[ ] 4-H Registration Form, if attending Nationals

[ ] Coordinator Adult Medical Form

[ ] Team Photo and Caption – upload online

[ ] Team Profiles – approve Coach submission online

[ ] Coordinator Travel Form – to complete on Web site

ALUMNI

There is a great resource in tapping Science Bowl alumni to assist with your competition – both alumni of your specific regional event, and alumni of other events who have relocated to your area because of colleges or careers.

It is helpful to save data on past student participants, and to keep in contact with college graduates to maintain this alumni resource.

Possibilities for alumni:

- Act as regional volunteers
- Serve on Science Bowl committee
- Attract media coverage if alumni are in community leadership or celebrity positions
- Coach a regional team
- Give a speech or demonstration of science research
- Mentor students
- Provide information about colleges, internships, careers
- Write sample questions
- Many more

NOTE: The National Science Bowl® event invites alumni to Washington, D.C. to act as competition officials and to present seminars, so please encourage your alumni to register on the NSB Web site: http://www.scied.science.doe.gov/nsb/hs/alumni.htm

U.S. DEPARTMENT OF ENERGY
2011 NATIONAL SCIENCE BOWL®

APRIL 28 – MAY 2, 2011

THURSDAY, APRIL 28, 2011

Welcome Teams and Coordinators!

DRESS: Casual (Coordinators: Purple Polo Shirt)

9:00 a.m.	**Welcome Teams at Airports**: DCA; IAD; BWI
9:00 a.m.	**Bus picks up ORISE Staff & Coordinators from Hotel** Store luggage in Kathleen's Corner until Coordinator rooms are ready
10:00-11:00 a.m.	**Unload Truck** *Loading Dock by Minnesota Room*
11:00-11:45 a.m.	**Team Registration Area Set-Up** *JC Penney Lobby*
11:45-12:45 p.m.	**Lunch for Registration Staff (35)** *Clover Cafe*
1:00-6:30 p.m.	**Team Registration** *J.C. Penney Lobby*
5:00-5:30 p.m.	**Corral students and coaches to dinner before Night Bus Tour**
5:00-6:30 p.m.	**Dinner** *Clover Café*
6:30-8:00 p.m.	**NSB Information Desk**
6:45 p.m.	**Bus Monitors meet for Night Tour of Monuments** *Front of JC Penney Hall*
7:00 p.m.	**Media Team Sets Up** *Schruben Board Room*
7:00-7:30 p.m.	**Buses depart for Night Tour of Monuments**
8:00-11:00 p.m.	**NSB Information Desk** (Teams sign board games out/in):
10:30 p.m.	**Curfew for Middle School Teams**
11:00 p.m.	**Curfew for High School Teams** & all others-all participants must be in their rooms (students, coaches, & coordinators)-Campus policy

FRIDAY, APRIL 29, 2011

Museum Visits & Tours, Middle School Rules Review
High School Advanced Placement Test Review

DRESS: National Science Bowl T-Shirt (ALL participants!)

6:30-8:30 a.m.	**BREAKFAST** *Clover Café*
6:30-7:15 a.m.	Middle School Teams ONLY
7:30-8:15 a.m.	High School Teams ONLY
7:45-8:15 a.m.	**Mandatory Meeting for ALL Regional Coordinators and Alumni** *America*
8:30-9:00 a.m.	**Assembly for all Middle School Teams** *Ohio*
8:45-9:15 a.m.	**Assembly for all High School Teams** (lavaliere microphone & LCD) -- *Aiton Auditorium*
9:00 a.m.	**Middle School Teams Board Buses**
9:15 a.m.	**High School Teams Board Buses**
	Buses drop teams at 4th & Jefferson Ave., SW (Near Air & Space Museum)
3:15 p.m.	**Middle School Teams meet & load buses at 4th & Jefferson Ave.**
4:00 p.m.	**High School Teams meet & load buses at 4th & Jefferson Ave.**
4:30-6:30 p.m.	**DINNER** *Clover Café*
4:30-5:30 p.m.	Middle School Teams ONLY Clover Café Monitors:
5:30-6:30 p.m.	High School Teams ONLY Clover Café Monitors:
6:30-8:15 p.m.	**Middle School Teams Assembly & Rules Review** *Ohio*
7:00-7:30 p.m.	**Assembly for High School Teams** *Aiton Auditorium*
7:30-9:30 p.m.	**AP Test Review Facilitators & Room Monitors**
8:30-10:00 p.m.	**Middle School Teams-Movie & Refreshments** (Lemonade, water, & popcorn) *Aiton Auditorium*
8:30-10:00 p.m.	**Refreshments for High School Teams** *Recreation Center*
10:00 p.m.	**Curfew for Middle School Teams**
Midnight	**Curfew for High School Teams & all others**-all participants must be in their rooms (students, coaches, & coordinators)-Campus policy

SATURDAY, APRIL 30, 2011

Middle School Academic Competition, High School Seminars, Division Team Challenge

High School Teams: Casual Attire ~ Middle School Teams: Regional T-Shirts
Alumni: White polo shirts ~ Coordinators: Purple polo shirts

6:30-8:30 a.m.	**Breakfast** *Clover Cafe*
6:30-7:15 a.m.	Middle School Teams ONLY
7:30-8:30 a.m.	High School Teams ONLY
7:00-9:00 a.m.	**Volunteer Check-In Desk** *JC Penney Grandfather Clock*
7:30-9:00 a.m.	**Question review for Middle School Volunteer Moderators & Scientific Judges** *Clover A/B*
8:00-9:00 a.m.	**Middle School Academic Competition Review Sessions**
8:00-noon	**Alumni Briefing & Training** (wear white polos)-*Indiana*
8:25-8:40 a.m.	**Photo of Middle School Teams** *Front of JC Penney Hall*
8:45-9:00 a.m.	**ASSEMBLY for High School Teams** *Aiton Auditorium*
9:00 a.m.	**Middle School Team Captains pick up name tents in JC Penney Lobby**
9:00-10:15 a.m.	**Saturday Science Bowl Seminar I** *Aiton Auditorium*
9:30 a.m.	**Media Team Morning Briefing** *Schruben Board Room*
9:30 a.m.	**Middle School Academic Tournament (14 Rooms)** **Round Robin One**
10:00 a.m.	**Round Robin Two**
10:00-2:30 p.m.	**Briefing for Science Judges for Division Team Challenge** *Oklahoma*
10:30 a.m.	**Round Robin Three**
10:30-11:45 a.m.	**Saturday Science Bowl Seminar Session II** *Various Rooms* **Enhancement/Hands-On Activities** *Minnesota*
11:00-11:15 a.m.	**Break & Refreshments for Middle School Teams** -- Officials open snack boxes in competition rooms
11:15 a.m.	**Round Robin Four**
11:45 a.m.	**Round Robin Five**

11:30-12:30 p.m.	**Lunch for High School Teams, DTC Judges, NSB Staff & Coordinators**
12:15 p.m.	**Round Robin Six**
12:45-1:45 p.m.	**Lunch for Middle School Teams & Volunteers** *Clover Cafe*
1:15-2:30 p.m.	**Seminar Session III** *Various Rooms* **Enhancement/Hands-On Activities** *Minnesota*
2:00 p.m.	**Round Robin Seven**
2:30-3:30 p.m.	**BREAK & Refreshments for High School Teams** *Recreation Center*
2:30 p.m.	**BREAK for Middle School Teams** *Amoco Lobby*
3:15-3:35 p.m.	**Middle School Tie Break Matches** Distribution of Tie Break Questions to Moderators *New York Lounge*
3:30-4:45 p.m.	**Middle School Teams not in Double Elimination prepare cars for design judging** (Students ONLY)-*Minnesota*
3:00-7:00 p.m.	**Car staff arrives at Bethesda Chevy Chase High School**
3:30-4:30 p.m.	**High School Division Team Challenge Competition**
3:45 p.m.	**Middle School DE Competition** Appeals/Challenges-*New York Lounge*
3:45 p.m.	**Double Elimination Round One**
3:45-5:45 p.m.	**NSB Information Desk**
4:15 p.m.	**Double Elimination Round Two**
4:30-5:30 p.m.	**High School Division Team Challenge Competition**
4:45-6:30 p.m.	**DINNER** *Clover Café*
4:45-5:30 p.m.	High School Teams-4 Divisions that completed DTC
4:45-5:30 p.m.	Middle School Teams & Volunteers
5:30-6:30 p.m.	High School Teams-Last 4 Divisions that Completed DTC
5:45 p.m.	**Double Elimination Round Three**
6:15 p.m.	**Double Elimination Round Four**
6:15-9:30 p.m.	**Middle School Teams eliminated in Double Elimination are allowed 30 minutes to prepare solar cars for design judging** (Students ONLY) *Minnesota*
6:45 p.m.	**Double Elimination Round Five**

7:00-8:30 p.m.	**Assembly for High School Teams**: Prizes for Enhancement/Scavenger Hunt & Rules Review *Aiton Auditorium*
7:15 p.m.	**Double Elimination Round Six**
7:30-10:00 p.m.	**Middle School Teams Design Document Interview/Judging & Refreshments-** Students Only
7:30-7:50 p.m.	**Jefferson Division: Engineering Design Interview/Judging** *Indiana*
7:45 p.m.	**Double Elimination Round Seven**
7:55-8:15 p.m.	**Kennedy Division: Engineering Design Interview/Judging** *Indiana*
8:20-8:40 p.m.	**Lincoln Division: Engineering Design Document Interview/Judging** *Indiana*
8:30-10:30 p.m.	**Competition Practice & Room Monitors** (Refresh supplies @ 10:30) Missouri; John Deere; Iowa; America; Clover
8:45-9:05 p.m.	**Madison Division: Engineering Design Document Interview/Judging** *Indiana*
9:00-11:00 p.m.	**Refreshments for High School Teams** *Recreation Room*
9:00-11:00 p.m.	**Coaches & Alumni Social** *Ohio*
9:10-9:30 p.m.	**Roosevelt Division: Engineering Design Document Interview/Judging** *Indiana*
9:35-9:55 p.m.	**Washington Division: Engineering Design Document Interview/Judging** *Indiana*
9:55-10:15 p.m.	**If necessary: Engineering Design Document Interview/Judging for Teams Competing in Double Elimination Rounds 5, 6, or 7** *Indiana*
10:00 p.m.	**Curfew for Middle School Teams** (unless in Engineering Design Document Interviews)
12:00 p.m.	**Curfew for High School Teams** and all others-all participants must be in their rooms (students, coaches, & coordinators)-Campus policy

SUNDAY, MAY 1, 2011

High School Academic Competition & Middle School Car Event

High School Teams: Regional T-Shirts ~ Middle School Teams: Solar Car T-Shirts
Coordinators: Black Polos

6:30-8:30 a.m.	**Breakfast** *Clover Cafe*
6:45-9:00 a.m.	**Volunteer Check-In** *JC Penney Grandfather Clock*
7:00-9:00 a.m.	**Free time for Teams**
7:30-9:45 a.m.	**Question Review** *Clover A & B*
8:30-9:00 a.m.	**Interfaith Worship Service** *Ohio*
9:00-9:45 a.m.	**High School Academic Competition Briefing for Volunteers**
9:15 a.m.	**Photo of High School Teams**
10:15 a.m.	**Middle School Teams Board Buses** (water & cereal bars on buses)-depart for BCC High School Solar Car Event Lead:
	High School Round Robin Matches
10:00 a.m.	**Round Robin One**
10:30 a.m.	**Round Robin Two**
11:00 a.m.	**Round Robin Three**
11:00-5:30 p.m.	**Car Event at Bethesda Chevy Chase High School**
11:00-11:30 a.m.	**Teams Fine Tune Cars, Testing & Car Inspection** *Auxiliary Gym*
11:30-noon	**Car Rules Review** *Main Gym*
11:30 a.m.	**Round Robin Four**
11:30-1:00 p.m.	**Lunch for High School Teams & Volunteers**
12:00-1:00 p.m.	**Lunch for Middle School Teams & Volunteers** *Atrium*
1:00-3:00 p.m.	**Car Event Time Trials**
1:15 p.m.	**Round Robin Five**
1:45 p.m.	**Round Robin Six**

2:00-3:00 p.m.	**Solar Car Event-Time Trial 2**
2:15 p.m.	**Round Robin Seven**
2:45-3:15 p.m.	**BREAK @ 4-H** *Recreation Room, Alabama Lobby*
3:00-3:20 p.m.	**Car Teams: Snack & Clean up Tables**
3:15 p.m.	**Round Robin Eight**
3:20-4:20 p.m.	**Car Event-Time Trial 3**
3:45 p.m.	**Round Robin Nine**
4:15 p.m.	**Round Robin Ten**
4:20-5:20 p.m.	**Car Event-Double Elimination Heats**
4:30-7:00 p.m. 4:30-5:45 p.m. 6:00-7:00 p.m.	**Dinner** *Clover Cafe* High School Teams & Volunteers Middle School Teams
4:45 p.m.	Round Robin Eleven
5:30 p.m.	**Load Buses at & Depart for 4-H**
5:45 p.m.	**High School-Double Elimination Announcements in Recreation Center**
6:00-7:00 p.m.	**Dinner for Middle School Teams** *Clover Cafe*
6:30 p.m.	**High School Double Elimination Round One**
7:00 p.m.	**High School Double Elimination Round Two**
7:30 p.m.	**High School Double Elimination Round Three**
7:30-8:30 p.m.	**Middle School Assembly & Slide Show** *Aiton Auditorium*
8:00 p.m.	**High School Double Elimination Round Four**
8:30 p.m.	**High School Double Elimination Round Five** (Visual Bonus Questions)
9:10 p.m.	**High School Double Elimination Round Six** (Visual Bonus Questions)
10:00 p.m.	**Curfew for Middle School Teams**
11:00 p.m.	**Curfew for High School Teams** & All Others -- all participants must be in their rooms (students, coaches & coordinators) -- Campus policy

MONDAY, MAY 2, 2011

High School: NSB Blue Polo Shirt & Blue or Black slacks or skirt
Middle School: NSB Green Polo Shirt & Blue or Black slacks or skirt
Regional Coordinators & NSB Staff: Business Attire

6:00-7:00 a.m.	**Breakfast** Middle School Teams-*Ohio* High School Teams, Staff, & Coordinators-*Clover Cafe*
7:15 a.m.	**Middle School Teams Board Buses** w/luggage by Airport & Depart for National Building Museum
7:30 a.m.	**High School Teams Board Buses** w/luggage by Airport & Depart for National Building Museum
	National Building Museum
9:00-9:15 a.m.	**All Participants and Guests Assemble in Audience Chairs**
9:30 a.m.	**Middle School Double Elimination Round Eight: Final Match**
10:00 a.m.	**Middle School Double Elimination Round Nine: If necessary match**
10:40 a.m.	**High School Double Elimination Round Seven: Semi-Final Round**
11:15 a.m.	**High School Double Elimination Round Eight: Final Round**
11:50 a.m.	**High School Double Elimination Round Nine: If necessary match**
12:20	**- COMPETIRION ENDS -**
12:25 p.m.	**MC announces Division Team Challenge Awards** (no photo)
12:35 p.m.	**MC introduces, Director, Office of Science, who introduces Secretary of Energy**
12:45 p.m.	**KEYNOTE SPEECH:** Secretary of Energy
1:10 p.m.	**Presentation of Awards**
1:35 p.m.	**Dismiss teams**
2:00 p.m.	**Teams, Alumni, Regional Coordinators board buses** and depart for Airports

WHO TO CONTACT

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Thank you for ALL you have done
and continue to do for the
U.S. Department of Energy's
National Science Bowl®.

There would not be a National Science Bowl® without YOU!